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Adjustment to Visual Disability in Adolescence

ADJUSTMENT TO VISUAL DISABILITY IN ADOLESCENCE

By

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AMERICAN FOUNDATION
FOR THE BLIND
NEW YORK

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American Foundation for the Blind

Published 1961 by the
AMERICAN FOUNDATION FOR THE BLIND
15 West 16th Street, New York 11, N. Y.
PRINTED IN U.S.A.
THE WILLIAM BYRD PRESS, INC.

Foreword

It is with a great deal of pleasure that the American Foundation for the Blind makes this book available to the public. The literature on tests and testing of blind persons is extremely limited with respect to reliable data and dependable conclusions. Extensive research in this area has long been called for. The present volume is an example of a good, methodological study carried on in a careful academic situation. It warrants attention from anyone in our field, not the least because it indicates possible conclusions that may be at variance with frequently quoted hypotheses and opinions.

The study was undertaken and completed at the University of Rochester, New York under the general supervision of Dr. Emory L. Cowen, Professor of Psychology, who is also responsible for the preparation of the final manuscript. Much of the contents is based on the doctoral dissertations of the three junior authors. At the time Drs. Underberg and Verrillo were graduate students and Veterans Administration trainees in clinical psychology. Dr. Benham was a graduate student and research assistant on a United States Public Health Service grant.

The Foundation wishes to expess its deep appreciation to the authors for their conscientious and selfless devotion to a difficult and laborious task. We are convinced that educators, psychologists and others will pursue the volume with avid interest and profit to themselves. Hopefully, it will lead to other, much needed studies in the area.

M. Robert Barnett
Executive Director

Acknowledgments

Many debts, to people and to organizations, explicit and implicit, are cumulated during the prosecution of a research venture of this magnitude. Having completed our report, it is a pleasure indeed, though small payment, to have the opportunity to recognize in some formal way, the contributions that have been made. Our prime regret is only that the tribute must be so limited, and that because of sheer weight of numbers and limitations of space many who have contributed materially must remain uncited.

Without the generous help of the American Foundation for the Blind, who supported the first year's work, our study could not have gotten off the ground. We are particularly grateful to Dr. Nathaniel Raskin, who was a powerful source of encouragement, support and concrete help in those early days. His successor, as director of research at the Foundation, Dr. Milton D. Graham, has not only been a source of continued encouragement during the manuscript production phase of the project, but has also served as an able, constructive, and conscientious critic of our work. He has read the manuscript through in its entirety, and a number of his helpful suggestions have become part of the final document. Miss Helga Lende of the Foundation was at all times helpful and cooperative with respect to our needs for bibliographic and reference materials. Moreover, we are deeply indebted to her for a skillful and ever so patient editorial hand.

In like manner we are deeply indebted to the National Institutes of Health, who provided support for the project during its second and third years (M 1805). It is quite clear that without such support it would not have been possible to do the second major study, to analyze the data in the detail that we have been able to, or to put together this volume summarizing our findings.

The study was carried out while all four authors were affiliated with the Department of Psychology at the University of Rochester. From its inception, the project had the benefit of the wisdom and technical skills of two other members of the Psychology Department, Drs. Helen H. Nowlis and Russel F. Green. Dr. Nowlis contributed

markedly to the shaping of the problem, through her intimate understanding of research problems in the areas of developmental psychology and personality. Dr. Green has been an unsung hero through all phases of the project, and has generously given us his time and his vast know-how in the areas of experimental design and statistical analyses. Shortcomings in the present report undoubtedly reflect areas in which we failed to consult with him.

This study required the help of a large number of people who served as judges in the development of new test instruments. In this respect our research group was ever-presuming upon the good nature and charity of colleagues and workers in facilities for the blind. Drs. Daniel C. Broida, Bernard Schwartz, Israel W. Charney, John H. Flavell, and Judith Hess Heilizer served as judges for the self-ideal sort. Dr. Broida, together with Mesdames Ribley, Reilly, Franke, and Yule, all of the Monroe County Association for the Blind, kindly agreed to act as judges in our screening of items for an Attitudes to Blindness Scale. We wish also to thank Mrs. Irma Wiener, Mr. George Lombart, Mr. Santo Patti, Miss Mary Mans, Miss Gertrude Wright, Dr. Stephen Davol, Dr. Paul Obrist, Mr. Martin Spickler and Dr. Sheldon Alexander, each of whom helped out in the job of developing the Teachers' Behavior Rating Scale. And finally we are indebted to Drs. Sheldon Alexander, Leonard D. Feinberg, Howard P. Iker, Israel W. Charney, Daniel C. Broida, Bernard Schwartz, Helene Dunning Gerall, Florence Cawthorne Grant, Judith Hess Heilizer, and Paul Obrist who acted as judges in the development of several forms of the Situations Projective Test. Without the willing cooperation of all of the foregoing, the sizable job of instrumentation involved in this study would have been an impossible one.

Even with the very best of intentions on the part of the research team, execution of a study of this type requires a good deal of assistance and concrete effort on the part of a number of individuals in a variety of settings. Such practical problems as subject procurement, securing cooperation of installation personnel, use of file material, arrangement of testing schedules etc., were lightened immeasurably by the splendid cooperation we received from a number of sources. In this connection we should like to express our sincerest appreciation to the following: Mrs. Helen Fields, Director, Bureau for the Education of the Visually Handicapped, New York, New York; Miss Isa Cole, Director of Special Education, Board of Education,

Syracuse, New York; Mr. Herman Goldberg and Miss Winifred Brumber, Special Education Section, Rochester Board of Education, Rochester, New York; Dr. Frank A. Brokaw, Superintendent of Schools, Fairport, New York; Dr. Louis C. Obourn, Superintendent of Schools, East Rochester, New York; Dr. Edward J. Waterhouse, Director, and Mr. Carl J. Davis, Head, Department of Psychology and Guidance at the Perkins School for the Blind, Watertown, Massachusetts; Mr. W. G. Scarberry, Superintendent, Ohio State School for the Blind, Columbus, Ohio; Dr. Alton G. Kloss, Superintendent and Dr. Regis F. Ferson, Assistant Superintendent and Psychologist at the Western Pennsylvania School for the Blind, Pittsburgh, Pennsylvania; the late Edward Brayer, former Principal, Mr. Paul Ruhland, Principal, and Dr. Eber L. Palmer, Superintendent at the New York State School for the Blind, Batavia, New York. At each of these installations there were also a number of teachers, principals and other administrative staff who ably abetted our cause.

A particular expression of gratitude is due Mr. William Budin, who, in his capacity of U.S.P.H.S. research assistant to this project for two years, labored long and most effectively in connection with many aspects of data tabulation, data analysis and literature search. Mr. Phoebus Tongas also participated meaningfully in these functions.

Our thanks also go to Mrs. Sally Laverty who worked diligently on the early phases of manuscript preparation, and particularly to Mrs. Marcia Macklin who, laboring over and beyond the call of duty, did an effective and intelligent job of transcribing hieroglyphics into the final manuscript.

And finally, our deepest appreciation goes to each of our subjects and their parents for their patience and willingness to devote time in the interest of expanding our knowledge of human behavior.

This volume is dedicated to our spouses, Renee, Stan, Vi, and Flo, who paid the greatest price of all. They had to live with us while the research was being done and while the manuscript was being put together.

Rochester, New York
October 27, 1960

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Adjustment to
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CHAPTER I

Background of the Study

ORIENTING OVERVIEW

The present volume describes a three-year research program in which the determination of some factors relating to adjustment in visually disabled adolescents was a prime objective. This broad orienting statement may appropriately be reduced to a number of specific guiding questions which prompted the research venture. The more basic among these are as follows:

1) How do visually disabled adolescents compare with demographically similar sighted adolescents with respect to personality makeup and adjustment? 2) How do the parents of these disabled and sighted *S*s compare in their attitudes toward child rearing, blindness, minorities, and authoritarianism? 3) What is the relationship between measures of parental attitude and those of adolescent adjustment in visually disabled and sighted groups, and are there differences in such relationships between groups? 4) How do parents of visually disabled and sighted adolescents compare in their ability to understand their children (i.e., their ability to predict their children's verbal responses to several types of test stimuli)? 5) Within a given subject group how do these measures of understanding relate to indices of adjustment and are there differences in these relationships between subject groups?

The foregoing are among the more fundamental questions toward which our research has been targeted. In seeking answers to them, data bearing on other important issues were also obtained even though this may, at times, have been secondary to our fundamental objectives. For example, what differences on our basic measures, if any, can be found among groups with varying degrees of visual disability? Are there differences between visually disabled adolescents living at home and attending regular public education facilities, as contrasted to those who are living in residential schools?

The development of the research program proceeded in three fairly discrete steps, each of which required about one year. The first of these involved the conceptualization of the problem, and development of the appropriate instruments and methodologies to study it. Although it may at first blush appear that this is a considerable proportion of time to devote to the preparatory phases of the experiment, we have come, in retrospect, to feel that time so spent is vital to the proper execution of research. In fact, we consider it one of the prime failings of the present program that it was not possible to develop more carefully and extensively the instruments and techniques which were to constitute the very backbone of our research. Our preoccupations and concerns in this regard have been discussed more fully elsewhere (Cowen, 1958); it is however a matter which will require specific and careful consideration in any final evaluation of the contribution of the present research effort.

The second phase of the research involved the collection of data for a sizable sample of visually disabled adolescents and their parents (Underberg, 1958, Verrillo, 1958). All of these youngsters were, at the time, living in the parental home and attending regular public education facilities. Parallel to the collection of these data, data were also gathered for a group of otherwise comparable but sighted adolescents and their parents. The analysis of these data brought to light the possibility that our generalizations might be biased by some selective attributes of the disabled sample. This gave rise to the final phase of our work, a replication of the basic study with a new and comparable sample of visually disabled adolescents differing from the original sample primarily in that they were attending residential schools for the blind, rather than public day education facilities (Benham, 1960).

In the full course of the research we were able to study intensively some 127 visually disabled adolescents, as well as a control group of 40 sighted adolescents. Furthermore, it was possible for us to collect data on the pertinent measures from mothers of every *S* in the experimental and the control groups, and from about 40 per cent of the fathers.

Although the research was carried out in these separate and distinct steps, in the interests of clarity and brevity of presentation we shall, for the most part, be describing it as if it had been a single unitary study.

THE PRESENT RESEARCH IN PERSPECTIVE

Although writings on blindness date back at least as far as the early Egyptian hieroglyphics (Barker, Wright, Meyerson and Gonick, 1953) they have for the most part been highly speculative or descriptive in nature. In referring to the cumulated literature in this area Meyerson has stated:

> In the extensive inspirational and polemic literature by and about the blind are literally thousands of descriptions of personal and social behavior. . . . They have value if properly utilized, but they cannot be relied upon to solve problems since different writers are often contradictory, generalizations have not been held in check by systematic rigorous examination of data, and, in general, the phenomena dealt with have been on the level of fragmentary or molecular behavior. (1950, pp 13-14).

This comment, though drawn up in the context of evaluating work with the visually disabled, undoubtedly has generalized applicability to other disability groups. It is historically accurate to say that the visually disabled have shared with other physical disability groups the problem of being second class citizens in our society. Barker (1948) has explicitly conceptualized this fact by describing the physically disabled person as having minority group status, i.e., he is underprivileged, his locomotion, psychologically speaking, is restricted, and he may be subject to a type of prejudice and exclusion which is at least structurally similar to that directed toward members of sociological minority groups.

Narrowing the focus, Cole and Taboroff (1955) observe that throughout history the visually disabled consistently have been socially separate from others. Indeed, in some primitive populations, they were discarded in a "survival of the fittest" policy and, with the development of Christianity, they were hidden in institutions where little more than custodial care was offered. The emotions their handicap has generated in their fellow men have run the gamut from revulsion to worship as beings with mystical powers, but always emphasis was placed on the feeling that the visually disabled were different from others. Further historical perspective with respect to the early status of the blind is provided in a volume by French (1932).

Slowly, with the economic and technological evolution of Western civilization and, as a consequence, a closer approach toward the satisfaction of basic physical and material needs of larger segments of our population, we have witnessed a progression through custodial orientations to physicomedical efforts, and ultimately to an interest in the visually disabled person as a psychological being. At first, within the field of visual disability such interest manifested itself primarily in terms of the education of the blind. The early type of systematic study of psychological phenomena with this group was limited primarily to the investigation of sensory aspects of blindness and to comparative studies in intelligence. Problems of spatial perception in the blind are discussed in the works of William James (1918, pp 202-211) and Wilhelm Wundt (Lowenfeld, 1955). It was in Wundt's laboratory that Theodore Heller conducted the first systematic study dealing with the psychological problems of blindness. Studies in intelligence and academic achievement were spurred mainly through the works of Samuel P. Hayes, a pioneer in this field (1927, 1938, 1941).

It has only been in the last several decades, however, that inquiry concerning the social and emotional aspects of blindness has moved beyond a barely noticeable trickle. Several important volumes have contributed significantly to the crystallization of this significant subarea (Cutsforth, 1933, Chevigny and Braverman, 1950). Even so, it is important to observe that earlier studies of the emotional make-up and adjustment of the visually disabled have been severely limited by serious conceptual and methodological problems. The earliest investigations in this field were concerned with how well-adjusted visually disabled people are or how their adjustment compares with that of sighted people. Interest in traditional inventory type descriptions of variables such as general adjustment, neuroticism, introversion-extroversion, dominance-submission, yielded results which were both superficial and static, and which shed little light on our actual knowledge about adjustment level or central variables in the personality organization of the visually disabled. This was an almost inevitable consequence of the fact that inventories of dubious validity in the personality assessment of normal sighted *S*s (Ellis, 1946) were being used with disability groups for whom they are even less appropriate.

In response to the need for deeper, more meaningful and more dynamic study of the psychosocial aspects of all types of disability, an important new research trend has recently been gaining impetus. This trend has been facilitated by important contributions from psychological theory, particularly Kurt Lewin's field theory (Lewin, 1935) as well as by an increasing orientation toward the basic problems of methodology and instrument development. Thus, studies have begun to emerge which are based upon more appropriate concepts of adjustment (Jervis, 1957; Norris, Spaulding and Brodie, 1957), which are oriented more toward factors underlying adjustment to visual disability, rather than static numerical comparisons, and which are pointed toward assessing the effectiveness of procedures designed to improve the adjustment of the visually disabled. Projective studies (McAndrew, 1948; Ball and Bernardoni, 1953; Braverman and Chevigny, 1955; Lebo and Bruce, 1960; Wilmer and Husni, 1953), personal interview methods (Willerman, Berger and Spencer, 1954; Bauman, 1954; Gravitz, 1954; Sommers, 1944; U. S. Veterans Administration, 1958), and direct behavioral assessments (Norris, et al., 1957; Willerman et al. 1954; Barry and Marshall, 1953) have been utilized with some effectiveness in the study of varying visual disability groups, and have begun to replace paper and pencil inventories as major vehicles of assessment. Instruments developed for use with visually disabled *S*s are coming more frequently to be utilized (Fitting, 1954; Ball and Bernadoni, 1953; Maxfield and Buchholz, 1957; Jervis, 1954; Braverman and Chevigny, 1955; Wilmer and Husni, 1953). Needed group data on the social significance of blindness (Sommers, 1944; U. S. Veterans Administration, 1958), the impact of varying treatment procedures (Axline in Raskin and Weller, 1953; Willerman et al., 1954), as well as longitudinal studies of visually disabled individuals have begun to make their appearance on the research scene (Norris et al., 1957; McAndrew (in Raskin and Weller, 1953)).

Theory has provided us with useful conceptualizations about disability. Thus, concepts such as the *unfortunate person* (Dembo, Ladieu and Wright, 1952, 1956), *minority group status, marginality* or *overlapping psychological roles,* and *new psychological situations* (Barker, 1948; Barker et al., 1953; Meyerson, 1955; Wright, 1960) constitute a fruitful source of research hypotheses, as well as an important basis for integrating empirical data emerging in this area.

The present investigative effort, loosely classified, belongs to the emerging genus of research on the sociopsychological aspects of disability—in this case visual disability. In our development of personality assessment techniques and measures of adjustment we have been guided by the need to have instruments which are as appropriate for a visually disabled sample as they are for a sighted one, while at the same time retaining depth and a dynamic orientation. Moreover we have attempted to go beyond a simple group-to-group comparison, and to seek out some potentially significant determinants and correlates of good and poor adjustment. One potentially fruitful line of investigation in seeking to understand factors which are likely to influence adjustment level in the child may logically be thought to start with the parent. The parent, or parent surrogate, because of his early and continued primary interaction with the child, and also as a carrier of the culture, has long been a focus of interest for psychiatrists, psychologists, educators, and others in allied professions who are concerned with problems of adjustment, mental health and personality development. Whenever social influences are considered, the parent, his behavior and his practices, must of necessity also come in for scrutiny. Society's attitudes regarding a disability are reflected in the parent and can strongly influence the parent's relationship with his child. These attitudes, in turn, may then be incorporated in the child's perceptions and feelings about himself, ultimately with some impact upon his personality development and adjustment.

While it is clearly recognized that the determinants of personality makeup and adjustment level in the child are multiple and complex, inquiry into the role of a potentially important set of contributing factors within the domain of parent attitudes and understanding may nevertheless contribute measurably to our understanding of the psychological problems of visually disabled adolescents.

CHAPTER II

Survey of Related Work

Before proceeding to a more detailed delineation of the present research design, we should like to examine some of the major lines of prior investigation from which our work has evolved. Broadly speaking, we shall be concerned with three major classes of studies—1) those which are relevant to the personality makeup and adjustment of the visually disabled; 2) those which deal with parental attitudes and their relationship to adjustment; and 3) those pertaining to parental understanding, together with its relationship to adjustment. In the latter two areas, while our ultimate interest is in the visually disabled child, the preponderance of relevant prior work has been done with nondisabled children. Finally, we shall plan to give some consideration to background issues having to do with the pros and cons of residential school placement.

A. ADJUSTMENT TO VISUAL DISABILITY

In the area of the psychological problems of the visually disabled, early research was oriented toward questions involving the adjustment of the visually disabled and how their adjustment compared with that of the sighted. For the most part, factors underlying adjustment or central variables of personality development were ignored in favor of static numerical group comparisons which were based on traditional pencil and paper personality inventories. These inventories purportedly determined the extent to which the visually disabled were introverted or extroverted (Jeter, 1935; Hootman, 1935; Brown, 1938; Pintner and Forlano, 1943; Mull, 1948), neurotic (Brown, 1939; Dennis, 1939), dominant or submissive (Griffis, 1935) or generally maladjusted (Morgan, 1944; Sommers, 1944; Hubbard, 1945; Hastings, 1947; Brieland, 1950; Dean 1957b). Since many of these studies have been reviewed elsewhere (Barker et al, 1953), we shall here be concerned only with several illustrative examples.

In an investigation by Griffis (1935) the Bernreuter Personality Inventory and the Laird Personal Inventories were used to investigate adjustment problems in blind and partially sighted adolescents selected from three residential schools for the blind. Compared to the norms established for these tests, the blind were found to be less self-sufficient and less dominant than the sighted. Since age, institutionalization and academic achievement of the experimental group differed from that of the standardization group, it is difficult to evaluate the differences that were found.

Brown (1938, 1939) administered the Clark Revision of the Thurstone Personality Schedule and the Neymann-Kohlstedt Test to 218 residential blind and 359 sighted public high school students. On the former test, the blind showed more neurotic tendencies than did the sighted. The high neurotic scores recorded for blind females were shown to account for this statistically significant difference. Although there were no significant differences between the blind and sighted groups on the Neymann-Kohlstedt, there were significant sex differences with the blind females being more introverted than either blind or sighted males. Serious difficulties arise in trying to interpret these findings since the two groups differed in age, sex distribution, intelligence, academic achievement, method of test administration and institutionalization. There was no attempt to control for differences in socioeconomic status, and degree of visual loss is not stated.

Morgan (1944) reports an investigation of 128 adolescents in a residential school for the blind, using the Personal Index as his basic measure of adjustment. Scores of these visually disabled adolescents were compared with test norms as well as with scores of boys in a reform school. The visually disabled *S*s fell midway between the reform school boys and the standardization group in the maladjustment rating. The author suggests that partially sighted children who become problems in the public schools are frequently referred to residential schools and this accounts for their being at the midway point on the scale.

Hubbard (1945) sought to compare the personality traits of 80 blind and 40 sighted adolescents using the California Test of Personality. Tests were administered to the blind *S*s by the residential school principals where the children were enrolled, while the investigator administered them to the comparison group of public high school students. The sighted *S*s were found to be better adjusted. The meaning of this finding is obscured by the fact that the two groups differed in sex distribution, age, intelligence, academic achievement, relationship to the examiner and institutionalization.

Most of these same controls are lacking in Hastings' (1947) study in which blind and sighted children were compared on the California Test of Personality and the Mental Health Analysis. Although the blind were found to be more disturbed in self-adjustment and had more mental health liabilities, the groups were not equated for sex, age, intelligence, academic achievement, institutionalization and method of test administration.

Brieland (1950) matched pairs of congenitally blind and sighted adolescents for age, sex, socioeconomic status and rural or urban residence, but not for institutionalization. Results of the Bell Adjustment Inventory indicate that the blind *S*s were significantly inferior on all scales except "home adjustment," a truly interesting finding in the comparison of an institutionalized group with an in-the-home group. The question of the adequacy of the test for use with the blind can again be raised.

Quite apart from the specific test content of the foregoing studies, Barker et al, (1953) note directionally that in some of the inventory studies the visually disabled were found to be more maladjusted than the sighted (Hootman, 1935; Griffis, 1935; Brown, 1939; Sommers, 1944; Morgan, 1944; Hubbard, 1945; Hastings, 1947; Brieland, 1950). On the other hand in another subgroup of these studies it was not possible to demonstrate differences in adjustment between visually disabled and sighted groups (Jeter, 1935; Brown, 1938; Dennis, 1939; Pintner and Forlano, 1943; Mull, 1948). It is of some interest to note further, that separate studies using the same test instrument do not necessarily produce comparable findings. Moreover, in a recent study by Dean (1957b) data are presented indicating that adult visually disabled *S*s score lower on the Taylor Manifest Anxiety Scale (Taylor, 1953) than do sighted *S*s from a normative group. Although these data might be interpreted to reflect *better* adjustment in the disabled group, the author points out that test taking defensiveness by the visually disabled *S*s may have been operating to produce these results.

It seems evident from the inventory studies reviewed in detail as well as from those cited more skeletally, that these early attempts to investigate the adjustment and personality characteristics of the visually disabled have fallen short of their intended mark. The major causes of these failures are weaknesses in methodology and design. One serious drawback has been the use of measures standardized on nondisabled groups with disabled ones. Norms established for these instruments without exception fail to include persons with serious visual impairments. Another limitation is the fairly common practice of comparing residential school blind *S*s with sighted *S*s reared in the parental home and attending public schools. In this context, Meyerson (1953) states:

> The conditions of life for blind children living in residential schools are markedly different from the conditions which exist for seeing children living in their own homes. The blind children are both restricted by the regulations of the institution, and protected from competition with the seeing. The meaning of their responses cannot be evaluated in terms of norms compiled for non-institutionalized seeing children.

In such instances results may reflect differential social environment rather than the presumed personality differences stemming from differences in visual acuity.

Few of these studies report a matching sex distribution between groups and socioeconomic level of groups is virtually ignored. Although age and I.Q. are more likely to be considered, little attention is paid to grade placement which raises the question of the levels of sophistication of the groups being compared. Finally, age of onset of disability is another factor frequently overlooked or not reported in earlier studies. With these limitations in mind we must question seriously the findings by some investigators that the visually impaired are more poorly adjusted than their sighted peers. To be meaningful, a study purporting to investigate adjustment level or personality characteristics of a disabled group must use adequate instruments and the variables of intelligence, grade placement, sex distribution, socioeconomic level, age and institutionalization should be controlled to the greatest extent possible if the visually disabled are to be compared to the sighted.

In view of the research inadequacies outlined above and the past superficial approach to the study of adjustment in the visually handicapped, it is not surprising that findings in the area deriving from an inventory-type approach have been ambiguous, contradictory, or inconclusive.

One further aspect of the study of adjustment to visual disability warrants consideration. Relatively few of the studies reported in the literature attempt to distinguish between totally blind *S*s and those who are partially sighted. From among the inventory studies, when such a distinction has been made, differences between these groups have been found. (Morgan, 1944; Brieland, 1950). In each of these instances the partially sighted were observed to have greater personality and social problems than did the totally blind. On the other hand Dean (1957a) found no differences in adjustment among subgroups of visually disabled *S*s subdivided in terms of degree of disability on a series of criterion test instruments purportedly reflecting adjustment. Diamond and Ross (1945) report an investigation of the adjustment of 134 soldiers who were seen one to three months following acquisition of a visual disability. When these *S*s were subdivided according to degree of visual disability, psychiatric examination and observation suggested a greater incidence of adjustment difficulties in the partially sighted as compared to the more seriously visually disabled. Very recently (U. S. Veterans Administration, 1958), on the basis of an interview study with nearly 2,000 war blinded soldiers, greater dissatisfaction with community attitudes by the partially sighted in contrast to those with more extreme visual disabilities was found. By and large then, there is some suggestion from the prior literature that degree of visual disability may be of significance in determining adjustment to disability. Interestingly however, the weight of available evidence points toward a *higher* incidence of problems and difficulties among the *partially sighted,* rather than the totally blind, who physically are more removed from their environment. This finding, however, may be accommodated by the theoretical notion of *overlapping positions* applicable to the partially sighted (Barker, 1948; Barker et al., 1953; Meyerson, 1955) and the derivations from this concept which highlight the peculiar adjustive burdens arising out of this marginal position.

Although the earliest approaches to the study of adjustment to visual disability are heavily overweighted by investigations using paper-and-pencil inventories, other potentially more fruitful lines of investigation pivoting around factors underlying adjustment in a more dynamic sense were also beginning to develop.

A pioneer report in this area is the book, *The Blind in School and Society,* by Thomas Cutsforth (1933). Cutsforth collected most of the material for his book from literature about the blind as well as from case studies and interviews with blind children. In addition he did several experiments. Cutsforth proposes that the physical fact of being blind is not as great a source of conflict and feelings of inferiority as is the psychological fact of being treated as a person without sight. The blind child is often regarded as an "economic liability," "an object of luxurious indulgence," "ignored almost completely" or "overstimulated by constant talking and petting." Although Cutsforth has made many apparently keen and penetrating observations, he fails to provide the reader with an adequate account of his methodology.

McAndrew (1948), in an early experimental study compared the performance of 25 blind youngsters, averaging 12½ years in age to otherwise comparable deaf and normal groups, on a series of tasks designed to reflect aspects of psychological rigidity. In general the blind youngsters were found to be significantly more rigid than the normals but less so than the deaf. These findings were attributed to differing degrees of psychological isolation of the three groups with the blind *S*s occupying a position of isolation intermediate to the nonisolated normals and the highly isolated deaf *S*s.

Sommers (1944) carried out an extensive investigation of 143 visually impaired adolescents selected from ten residential schools for the blind. Oral presentation was used to administer the California Test of Personality, the answers being written in braille by the *S*s. Although Sommers found the personal and social adjustment of her blind group to be poorer than that of sighted adolescents, she correctly pointed out that this test, and others like it, is not adequate for use with blind *S*s since it was designed for and standardized on sighted *S*s. This is one of the few studies in which this very important consideration has been explicitly noted. In contrast to Brown's (1939) study, she found blind females to be slightly better adjusted than blind males.

Sommers, however, did not stop with the use of a standardized personality test, but went on to administer questionnaires and to conduct controlled interviews with part of her group and their parents. She describes five patterns of adjustive behavior in blind adolescents:

1. *Compensatory Reactions* in which the limitations resulting from the handicap are recognized and accepted and an attempt is made to minimize them.
2. *Denial Reaction* in which the actual limitations of being blind are not admitted.
3. *Defensive Reaction* in which socially acceptable reasons for behavior are given through the use of rationalization and projection.
4. *Withdrawal Reaction* in which retreat from frustrations and difficult situations predominate.

5. *Nonadjustive Behavior Reactions* in which the *S* remains unadjusted and unable to deal with everyday problems of living.

Although Sommers' qualitative descriptions and discussion are both lucid and stimulating, her generalizations based on comparisons of blind and sighted appear to derive more from subjective impressions than from adequate statistical analysis.

Of some incidental interest are the early studies by Bender (1942) in which visual disability was found not to affect academic aptitude, achievement, personality makeup or motivational patterns in college students, as well as the classic works on delinquency by Glueck and Glueck (1950) in which delinquents were found not to be differentiable from nondelinquents with respect to incidence of visual disability. Although these researches bear only tangentially on the direct study of adjustment to visual disability, they point up once again the fact that visual disability *per se* need not automatically have deleterious effects on adjustments or achievement.

Recently there has been a sharp increase in the number of dynamically oriented studies dealing with adjustment to blindness. Some within this group are recent enough so that they were not completed at the time the present study was undertaken; others are, to our knowledge, not yet completed. For more detailed summaries of other studies still in progress the reader is referred to several review sources (Raskin and Weller, 1953; Graham, 1960).

Gravitz (1954) has studied intensively the social participation of 100 blind and 100 sighted adults, using both depth interview techniques and an objective scale of social participation. It was found that the blind were comparable to the sighted with respect to amount of social participation; however, their interactions, as might be expected, involve other blind people to a much greater extent.

In an extensive study by Bauman (1954), some 450 blind adults were studied using case records, structured interviews, and a variety of intellective and personality testing procedures. Based on judgments by an agency staff, the larger group was divided into equal subgroups of well-adjusted and self-supporting, well-adjusted and not self-supporting, and poorly adjusted *S*s. Basically, despite considerable overlap, the well-adjusted self-supporting group was found to be significantly superior to the poorly adjusted group with respect to intelligence, manipulative ability and personality test scores. Furthermore, the well-adjusted group was found to have much better family situations than did the poorly adjusted *S*s, this being characterized by such things as greater communality of interest, higher mutual respect, more sharing of common problems, etc. This investigation makes an important contribution through the comparative delineation of factors relating to good and poor adjustment to visual disability.

In the U. S. Veterans Administration study (1958), already cited, ratings of adjustment of some 2,000 war veterans with recently acquired visual disabilities were made by social workers on the basis of 25 experientially important indicators of good and poor adjustment derived from an interview outline. Although the study is weakened by the lack of reliability data for this critical baseline assessment, the authors report that strong family ties and success in education constitute the most important predictors of adequacy of adaptation to visual disability. No data are available, however, to indicate more specifically the factors which underlie strong family ties or a successful educational experience.

In a monumental recent effort Norris et al (1957) studied longitudinally nearly 300 preschool blind. The children became part of the study as soon as possible after an initial diagnosis of blindness was established (characteristically during the first six months of life) and were carefully followed up until the age of six. A subsample of 66 *S*s was studied even more intensively, with at least yearly visits both by a psychologist and a social worker in the home situation. A prime objective of the research was to establish developmental norms upon which clinical evaluations as well as social and educational recommendations could be based. A second major objective was that of trying to understand the blind child with respect to factors promoting or retarding optimal growth. Although the study utilized psychological testing procedures for intelligence and social adjustment, it seems clear that the major vehicle for the conclusions was the extensive formal and informal observations of the youngsters by the professional staff. These observations took place in a wide variety of situations including the home, the staff members' office, the nursery school, and through a series of five-day intensive institutes conducted throughout the course of the study. To a considerable extent the depth and breadth of the study was facilitated by the provision of medical, psychiatric, social work, homemaker, and nursery school services, among others, to the families of the blind *S*s.

The authors report that it was possible for them to identify the conditions for optimal personal development of the blind child. Optimal development is meant to include the acquisition of independence, responsibility, freedom of functioning, and a potential comparable to that of well-adjusted sighted children within the same age range. Such development is considered to result from a highly individualized, crossdisciplinary approach to the child which emphasizes both the needs of the child and those of his parents. In a negative sense, failure to provide the requisites for optimal development is considered to be a prime factor in grossly retarded functioning as well as in the incidence of extreme emotional problems.

It is of some interest to note the conviction of the authors that the preschool blind child who has had favorable learning opportunities, can function very adequately in a nursery school program with sighted children, and in fact, that there may be substantial benefits for both groups, to be derived from this type of admixture. The viewpoint is expressed that adjustive problems when they are observed may not properly be viewed as a direct or automatic consequence of the disability. Thus the authors state:

> There are no special problems or "handicaps" which can be attributed directly to the blindness. The tendency to assume that developmental problems which the child may show are caused directly by his blindness obscures an understanding of the nature and treatment of these problems. (Norris et al., 1957, p. 65)

The work by Norris and her associates is currently being continued and extended by Cohen at Northwestern University.

A strikingly different approach to the study of adjustment to visual disability may be observed in the study of McAndrew (Raskin and Weller, 1953). This study is set up as a ten-year longitudinal investigation of the adjustment of 25 children in a residential school for the blind. Sighted controls are also being studied. The major vehicles of evaluation being used in the research include the Twitchell-Allen Tri-Dimensional Apperception Test, interviews and case records. It may be hoped that this type of approach will constitute a rich source of information bearing on the adjustment problems of the visually disabled.

Jervis (1960) reports an investigation of the adjustment of adolescent blind which relates quite closely to the present research. Based on 20 blind *S*s selected from residential schools, and 20 demographically comparable but sighted controls, Jervis used open-ended interviews and Q-sorts to study the self-concepts of these youngsters. The interview materials were subjected to clinical judgments, and no over-all differences were found between the groups. However the blind group included more *S*s with extreme positive or extreme negative self-attitudes. Moreover in some specific subareas (e.g. apprehensiveness toward the future, interpersonal relations etc.) qualitative differences between the groups were noted. On the objective test results, a modification of the Chicago Q-sort (Rogers and Dymond, 1954), no over-all differences between groups were demonstrated either for self-concept or for the ideal self.

We may note, finally, more in terms of the novelty of the approach than the content of the findings, the interesting study by Jervis and Haslerud (1950). In this investigation blind adolescents, sighted adolescents with blindfolds and sighted adolescents without blindfolds were subjected to experimental stress in a problem solving situation. The blind were found both in verbal and physiological measures to differ from the two sighted groups. For example, the blind showed more sighing, rapid and uneven respiration, less flushing and less tongue and lip biting than did either of the sighted groups. In their physiological responses, the blindfolded group was intermediate to the blind and sighted groups; however in verbal response they were very much like the sighted *S*s (e.g. low intropunitiveness in contrast to the highly intropunitive blind *S*s). The results of the study, suggest that there are differences in adaptation resulting from cumulative as opposed to situational restriction of visual function.

The work reviewed, starting with Cutsforth's volume, collectively represents an alternative approach to the study of adjustment to visual disability by means of the inventory. Although it is not always characterized by impeccable experimental rigor and sophistication, it appears to be predicated upon more meaningful questions and more central, probing techniques of investigation. Thus the common orientation is toward the determinants and correlates of adjustment and the relation of the visually disabled to the environment around him rather than his relative standing on a certain test; the techniques include depth interview, systematic observation, longitudinal focus, experimental manipulation and projective assessment among others. While we have not yet achieved a satisfactory understanding of the dynamic factors in adjustment to visual disability, it is our conviction that such understanding will ultimately be augmented more by a continuation and expansion of the dynamic sociopsychological approach which we consider to be evolving through the work just cited.

B. ATTITUDES TOWARD BLINDNESS

A basic premise underlying the present research is that blindness has a measurable social stimulus value. By this we mean to imply that people may form opinions and maintain attitudes about the blind based on the fact of blindness, in the absence of any other information about the individual. It is further contended that the blind person reacts to these attitudes in ways that affect his psychological adjustment. This may be particularly true in the parent-child relationship.

That blindness has a social stimulus value has been noted throughout the span of recorded history. Lowenfeld (1952) points up the historical precedent for regarding blind people as liabilities or as wards of society. Other attitudes have been observed as well. Illustratively the ancient Greeks afforded the blind a privileged religious position, as is done in parts of Korea and Turkey today (Villey-Desmeserets, 1930). Although not with specific reference to blindness, cultural differences have been observed (Hanks and Hanks, 1948) in that negative attitudes toward disability are more pronounced in authoritarian than in equalitarian cultures. Negative attitudes also prevail where the disability constitutes an economic liability and where the society is characterized by competitiveness and authoritarian orientations rather than cooperativeness and democratic attitudes. In our own society the "legally blind" are more favored by state laws relating to physical disability than any other disabled group (Barker et al., 1953). It is also true that more federal laws have been passed on blindness than for any other disability group. Some 50 such pieces of legislation have been summarized in a recent interesting report by Lende (1958).

Our fictional literature reflects the tendency to stereotype as seen in the common practice of depicting the blind character as either unusually good or abnormally bad (Langworthy, 1930). This characterization by group membership rather than by individual personality attributes is similar to the attitudes displayed toward minority groups by so many in our society.

These surveys and opinions illustrate that a variety of attitudes toward the blind are observable now and have been in the past. A number of more recent contributions have attempted to examine the content of attitudes toward blindness. Some of these seek to measure attitudes while other approach the problem at a more philosophical or theoretical level. It will be appropriate to look briefly at these writings.

An early study by Schaefer (1930) revealed that workers with the blind were in considerable disagreement over the strength of traits purported to be found in the blind. When asked to rank ten psychological traits culled from the literature about blindness there was little agreement in the ranks given by 34 workers. Using a questionnaire containing physical, sociological and psychological characteristics, Rusalem (1950) found that graduate students were inclined to maintain more "favorable" than "unfavorable" attitudes toward the blind. He failed however, to establish clearly which statements reflect favorable and which reflect unfavorable attitudes. Rusalem also gathered information with respect to the amount of contact his *S*s had had with the blind and found that this variable did not significantly affect attitudes toward blindness. One major contribution of his study was the development of the concept of "environmental supports" as applied to the blind. This concept refers to selective perceptions which reinforce pre-existing attitudes; characteristics which people readily recognize or seek out in order to maintain previously established attitudes.

Sommers (1944) using a somewhat intuitive approach to interview materials outlines some major attitude patterns observed in interviews with parents of blind children. These include acceptance of the child's handicap, denial of it, overt rejection, disguised rejection, and overprotection. By and large the first two of these patterns are regarded as desirable modes of reaction, while the last three are seen as undesirable. Negatively speaking, many parents of blind adolescents may regard blindness as a symbol of punishment, be fearful of being suspected of having a social disease, have guilt feelings due to violations of a moral or social code, or feel it to be a personal disgrace to have borne a blind child. She does not subject these findings to statistical analysis nor does she attempt to establish their reliability through examination of the data by more than one person. The findings should thus be regarded as impressions pending further investigation utilizing more rigorous methodology.

An important step toward a more adequate methodology in the development of an attitude toward blindness scale was taken by Steingisser (1954). The 100 items for her questionnaire were selected on the basis of 75 to 100 per cent agreement among four judges as to whether each item reflected a positive or negative attitude. Using this scale she found that well-adjusted college students tended to agree with positive statements and to disagree with negative statements about the blind. The converse was true of poorly adjusted students. The poorly adjusted students also tended to resist changes from negative to positive attitudes toward the blind.

Other papers in this area are more speculative than experimental in nature, but they are included in our review since they contain theoretical concepts and insights which have proven to be helpful in the conceptualization of the present study.

Himes (1950) explores various concepts of blindness prevalent in American culture and describes two culturally and socially defined reactions to blindness. In one, the disabled person is seen as normal in areas not affected by his handicap; the person admits and allows for adjustment to the limitation. Himes considers this to be the objective and desirable attitude, but claims that it is not widespread in our society. Empirical evidence in support of this point of view is not provided.

The other attitude is one of social stereotyping in which the handicap is thought to be diffuse throughout the personality and behavior system of the individual. The person is identified and classified with reference to his disability. Those holding this attitude toward the blind use as stereotypes either the blind beggar, the blind genius or the concept of sensory compensation in the blind. The net effect of these attitudes, according to Himes, is that the blind occupy an inferior social status, that they are eliminated from the routine competition of our society and that they are subjected to a downward flowing pattern of pity for which gratitude is expected. These modes of thinking are important if one accepts the thesis that the psychological adjustment of an individual can be affected by the attitudes manifested by others toward him.

Braverman (1951) in her analysis of attitudes, picks up the theme of the minority status of the blind, and explores further the psychological roots from which she feels these attitudes spring. The blind, in the eyes of the public, have a fairly stable set of characteristics including low capabilities and intelligence, poor emotional adjustment and are considered to be either sinful or saintly in their morals. The psychological roots of these attitudes are developed around the concept of castration anxiety.

Within a Freudian framework (Freud, 1938b) sight is considered to be a partial instinct in the psychosexual development of an individual. Looking, as a source of gratification, is generally objected to by parents and this frustration may be unconsciously perceived by the child as "symbolic castration." Thus, the sightless person becomes a focal point for the individual's own castration fears. Negative attitudes stem from revulsion (a reaction to castration fears). Pity for the blind, which is associated with negative attitudes, serves to allay guilt feelings and thus avoid the anxiety.

Schauer (1951) also uses an analytic orientation in seeking to explain the motivations of attitudes toward blindness. As Braverman (1951) implies, he states that attitudes toward the blind are motivated by one's attitudes toward self and toward one's own vision. Once again great emphasis is placed on social training at a time when looking is a source of pleasure to the child. This social training produces emotions of shame and disgust, causing the child to avert his eyes and thereby laying the foundations for attitudes toward vision and those without vision. These attitudes are predominantly negative and Schauer takes the rather fatalistic stand that they are ". . . inherent in the development of the maturing person . . ." Both Braverman's and Schauer's papers must be considered not as explanations but as hypotheses built on a theoretical framework and as yet untested.

A somewhat different approach to the problem of attitudes to blindness is contained in the recent study by Fitting (1954). This investigator developed an attitudes to blindness scale, covering six subareas for use in the assessment of attitudes of visually disabled rather than sighted *S*s. The combined attitude scale scores of 155 adult visually disabled *S*s seen in nine rehabilitation centers for the blind were correlated with criterion rating scale measures of functional skill and general adjustment made by staff members at these centers. Evidence is presented to suggest that positive self attitudes with respect to visual impairment are correlated with ratings of good adjustment.

On the basis of an interview approach to visually disabled veterans (U. S. Veterans Administration, 1958) somewhat more than 10 per cent of the sample studied were found to be unable to cope with community attitudes to blindness. Those *S*s considered to be deficient in this function were characterized by a higher level of unemployment and a less positive outlook on life in contrast to *S*s who were better able to accept societal attitudes to their disability.

Quite recently, two very important investigations have appeared which concern themselves primarily with attitudes to blindness (Gowman, 1957; Lukoff and Whiteman, 1959). The first of these (Gowman, 1957) is a provocative and informative sociological study of attitudes to blindness. His investigation consisted of three phases. First, he studied the attitudes of some 100 sighted high school seniors with a questionnaire developed specifically for the purposes of the study. Then, by means of intensive interviews given to an unspecified number of war blind, he was able to evaluate the subjective responses of these *S*s to society's attitudes. Finally, in a controlled observation experiment, he examined the behavior of a number of retail store clerks toward a visually disabled person and his sighted female companion.

The questionnaire comprising the first phase of the study consisted of three parts. In the first part, *S*s ranked five different disabilities, including blindness, arm amputation, leg amputation, severe facial burns, and deafness, in terms of psychological impact of the disability (i.e., the one which would be most difficult to accept received a rank of one and the one which would be easiest to accept received a rank of five). This task was completed by *S*s both for themselves and for their prospective mates. In the next segment of the questionnaire, *S*s responded to 13 interpersonal situations involving a hypothetical like-sexed visually disabled person. Two possible alternative behavioral responses to these situations, as well as a "don't know" category, were offered, from which one response was to be chosen. Illustratively, one question asked if *S* would or would not give up his seat on a crowded bus for a blind acquaintance who had no seat. The concluding section of the questionnaire was composed of 46 agree-disagree questions which involved stereotyped attitudes toward the visually disabled. Here, opinions of the sighted regarding such things as the supposed abilities, personality characteristics, and inferred feelings of status in the visually disabled were explored (e.g., *S* was asked to agree or disagree with the statement that the blind are capable of being meaner than most people). The author, in evaluating the findings derived from the questionnaire, stresses that the instrument was designed primarily for exploratory purposes. The findings include the following: blindness was overwhelmingly selected as the worst possible disability for self with more than 80 per cent of the *S*s ranking it in first position. Results for prospective mates were in the same direction. Insofar as results for the situational and agree-disagree questions were concerned, differential findings appeared for lower and middle class *S*s. The tendency was for lower class *S*s to react to the visually disabled with negative stereotyped attitudes, whereas middle class *S*s, perhaps because of apparent sophistication and middle-class humanitarian values, were able to relate to the visually disabled more in the same way as they would relate to the sighted.

In the second phase of the study, totally blind veterans or those with minimal light perception were interviewed concerning their perceptions of society's attitudes and expectations, as well as their conceptions of their own rights and obligations. Although the results of the interviews were not quantified, a good deal of information regarding the impact of society's attitudes on the visually disabled was derived from the *S*s responses. They (the *S*s) felt that adjustment was hampered by a flood of emotion, oversupport, and permissiveness which they encountered in the family. Furthermore, responses of pity were universally singled out by the *S*s as the emotional response most damaging to a feeling of self-respect and self-worth. A majority of *S*s were sensitively aware of their status as a minority group and made efforts to integrate with the surrounding sighted society. A number of other conclusions regarding the feelings of *S*s were also explored, including ones toward company paternalism on the job and attitudes toward proffered help in areas where *S* felt competent.

In the final phase of the study, a visually disabled male purchaser, his sighted female companion, and an observer in the role of a browsing shopper, shopped for a man's white shirt in 13 men's furnishing stores, while for control purposes, seven stores were visited by a sighted male purchaser, his sighted female companion, and an observer. Clerks' behavior was categorized by both companion and observer in nine areas. Judgments were made about the kind of actions initially directed toward the companion or purchaser, as well as those which emerged throughout the entire purchasing situation. Responses such as "placed shirt before companion vs. purchaser" or "initial comment to companion vs. purchaser" were noted. The results indicated that while none of the clerks looked to the companion for cues in structuring his own behavior when the purchaser was sighted, five out of 13 clerks did so when the purchaser was visually disabled (all clerks recognized blindness in the purchaser where relevant). Furthermore, in the case of the sighted purchaser, all seven clerks placed the shirt in front of the purchaser, whereas in the instance of the visually disabled purchaser, only six out of 13 clerks did so. The author concludes that the role of the sighted companion is of crucial importance when the visually disabled person interacts with society.

Another recent and very promising approach to the study of attitudes to blindness was also started subsequent to the completion of our own study (Lukoff and Whiteman, 1959). This study is described as a four-stage program, of which only the first stage has been completed thus far. This phase deals with the identification of the nature of attitudes to blindness as well as the factors which seem to support or to modify such attitudes.

On the basis of previous tests as well as original item construction, a 168-item scale was rather carefully put together with respect to item placement, order effects, phrasing, and provision of a variety of response options. Moreover, the scale contained some items reflecting attitudes toward other disability groups as a basis for assessing the specificity or generality of attitudes to blindness.

The scale was administered first to 58 college students and subsequently with some revision to a group of 97 graduate social work students. A major objective of this approach was to derive item clusters which could be combined into test indices. Ultimately nine such indices were identified for the college sample and 12 for the graduate sample; these seemed to group around four classes of variables: 1) *experience variables*—having to do with information about blindness and contact with blind people; 2) *conceptions of blindness variables* reflecting perceptions about the seriousness of blindness and the amount of anxiety it arouses in the respondent; 3) *attributes of blind persons variables*—including the perceived ability of blind people to compete in society, emotional adjustment, inferred unusual qualities of the blind and ability of the respondent to perceive blind people individually rather than generically; 4) *readiness for interaction variables*—including a pity-sympathy-sensitivity dimension, willingness to interact with blind people, attitudes toward integration of the blind into the sighted community, etc.

Extensive correlational matrices are presented for both samples to show the interrelationships among these factors; in general the observed correlations tend to be positive but low. On this basis the authors conclude that attitudes toward blindness seem clearly to be complex and multidimensional in nature.

In subsequent phases of this encouraging program it is planned to: 1) study the determinants of change in attitudes to blindness, or what factors cause sighted people to accept or to reject a new orientation to visual disability, 2) examine the effects of the already identified attitude dimensions on the adjustment of visually disabled *S*s, 3) apply the information gained from the earlier stages of the study to the larger community setting, particularly to groups likely to have frequent contact with the blind (e.g. workers with the blind, family members, employers, etc.)

It is evident that the work on attitudes toward blindness is still in an early stage. A variety of attitudes have been observed through an examination of culture, literature, legislation and personal opinions. Most of the writers deal with the problem on a speculative or observational basis and very few have attempted to provide data which is quantifiable. Several provocative hypotheses have been suggested, such as Barker's (1948) and Rusalem's (1950) minority status of the blind, the social stereotyping of the blind in Himes' work (1950) and the psychosexual implications of attitudes as suggested by Braverman (1951) and Schauer (1951). The need at the present time is to develop methodologies and to refine existing techniques so that these observations and ideas can either be placed more securely on a scientific footing or shown to be inaccurate. In the very recent sociological study of Gowman (1957) and the careful experimental work of Lukoff and Whiteman (1959), we may observe several paradigms of the types of investigations which seem necessary to put this area on a firmer base.

C. CHILD REARING ATTITUDES

Attitudes of parents toward child rearing have been of central interest and have stimulated extensive investigation for many decades. This focus stems in good measure from the heavy emphasis placed by Freud and other early analytic theorists upon the importance of early childhood experience. Such an emphasis continues to be observed within the framework of analytic theory, and has, in fact become a matter of primary concern within other theoretical orientations (e.g. learning theory) as well. Increasingly we have become aware of the importance of the socialization process in personality development (Whiting and Child, 1953; Sears, Maccoby and Levin, 1957) and of the fact that the family is the fundamental agent in this process.

Many years ago, Freud (1938a, 1938b) observed that confident, optimistic and often successful persons are "those persons who consider themselves preferred or favored by their mothers" (1938a, p. 375), but that "too much parental tenderness becomes harmful . . . because it 'spoils' the child" (1938b, p. 80-81).

In these observations, we may perceive the essence of what, today, we might refer to as the effects of accepting and overprotecting parental attitudes upon the child. In like manner Aichhorn (1935) emphasized the effects of parental rejection and proposed that a firm link existed between rejection and delinquent behaviors in the child. Levy (1930, 1931) in his important early works summarized in his volume (1943), describes behavioral manifestations in cases of maternal overprotection. Prompted by Levy's publications a series of studies were undertaken under the direction of Witmer (1934) in which parental attitudes were found to be an important prognostic index in clinical work with children.

The foregoing material is highly clinical in nature, evolving primarily from personal observation or from the examination of case history information. Although the methodology employed is open to criticism and quantifiable data were not characteristically obtained, there are communalities in these observations that are compelling. The methods used in handling children and the attitudes underlying these practices appear to show consistent relationships to the personality and behavior problems of the children. Specifically, such problems are related to parental overprotection, rejection, repressiveness, and domination. It was these clinical observations that laid the conceptual framework for the experimentation that followed and most of the concepts described in these early studies are common currency in today's literature.

The tradition of clinically oriented studies of parental attitudes toward child rearing has continued right up to the present time, with some noteworthy progress in the development of techniques for the quantification and analysis of this type of data.

In particular, the objective rating scale based on interviews and/or observations with parents has gained widespread usage. An important early step in this direction was taken by Champney (1941) who developed the Fels Parent Behavior Rating Scale. This scale covered 30 variables of parent behavior including such aspects of the parent-child relationship as: home atmosphere, contact of child and mother, influence of parent on child, babying and protectiveness, criticism and evaluation of the child, readiness of explanation and emotional relationship between parent and child.

Baldwin, Kalhorn, and Breese (1945) used the above scale in their study of patterns of parent behavior in a sample of 125 families who took part in an intensive long-term, longitudinal study of child development at the Fels Research Institute. Home visit observations provided the basis for ratings on the Fels Parent Rating Scale. Clusters of related variables were then selected from a table of intercorrelations which ultimately yielded three central syndromes of parent behavior: *democracy, indulgence,* and *acceptance.* These basic syndromes are considered to reflect underlying attitudes of the parents. Differential interactions of these syndromes gave rise to seven identifiable subgroups of parents each of which was considered to be sufficiently homogeneous to justify detailed and separate study. Of significance was the finding that patterns of parent behavior and attitude are related to behavioral reactions and personality characteristics in the child. On the basis of intelligence and projective tests and ratings of behavior in a variety of situations such as nursery school, elementary school and day camp, quantitative material was available on the intellectual, emotional and social development of the children. There appeared to be certain consistent patterns of behavioral and personality characteristics which differentiated children of one subgroup of parents from those of other subgroups. For example, children of parents who were actively rejectant were found to be lower than children from other groups with respect to cheerfulness, whereas children of democratic-acceptant parents were found to be higher than children from all other groups in sociability. Data such as these lend strong support to the supposition that parent attitude is an important determinant of adjustment in the child.

Further studies with some structural similarity in approach to the earlier Fels investigations indicated that 1) dictatorial and thwarting parental attitudes as ascertained by interview appear to be associated with conduct problems such as aggressive and uncontrollable behavior in adolescents (Becker, Peterson, Hellmer, Shoemaker, and Quay, 1959), and that 2) parental attitude variables having to do with trust, democratic orientation, severity of control, as well as internal consistency of family life as measured by ratings derived from intensive case studies, appeared to relate to personality characteristics in the adolescent including social conformity, spontaneity, hostility, friendliness, and ego strength as revealed by self-ratings, teachers' ratings, projective tests, and clinicians' evaluations (Peck, 1958).

Another type of demonstration of the relationship between parent behaviors, as ascertained through a lengthy interview procedure, and behaviors of the child is reported by Sears, Whiting, Nowlis, and Sears (1953). As one subarea these investigators examined severity of punishment by the parent for dependency and aggression, such behaviors presumably reflecting underlying parental attitudes in these areas. Based on detailed study of 40 preschool children including direct observation, teachers' ratings and doll play behavior, evidence is presented to indicate that the amount and kind of punishment and frustration that the child has experienced in the home situation determine to a significant extent the way in which his dependency and aggressive needs are handled.

The interview-observation tradition has perhaps reached its highest stage of development with the recent publication of the monumental study on *Patterns of Child Rearing* by Sears, Maccoby and Levin (1957). This research contains a wealth of material on the actual child rearing practices as well as the basic child rearing attitudes, of a sizeable sample (N=379) of American mothers. The standardized interview used by the investigators was based on a series of 72 questions (some with many subparts), and was electrically recorded in each instance. Ultimately the verbal material was evaluated in terms of a series of 188 objective rating scales covering a very wide range of practices and attitudes. The reader, in going through the findings of this research, must necessarily be impressed with the observation that parental attitude so often proves to be a better predictor of a given criterion behavior in the child, than does a specific maternal child rearing practice. As one simple illustration, the occurrence of feeding problems was found to be unrelated to specific infant care procedures such as breast vs. bottle feeding, self-demand vs. routine, age at start of weaning etc, but was correlated significantly with the aggression tolerance, general warmth, and level of use of physical punishment by the mother. More pervasively, maternal coldness was found to be associated with feeding problems, persistent bed-wetting, high level of aggression and slow development of conscience in the child. In like manner high maternal punitiveness for specific behaviors seemed to have a generally fixating effect on the behavior which it was calculated to eliminate: (e.g. mothers who punished heavily for aggression ended up with more aggressive children than those who punished lightly).

In sum, we once again find in the Sears, Maccoby and Levin investigation good reason to expect that parental attitudes should exert an important determining influence on the behavioral and personality characteristics of the child.

Along with this ever-growing refinement and objectification of interview and clinical approaches, there has also been a noticeable increase in the development and utilization of a wide variety of attitude questionnaires for the assessment of parental attitudes toward child rearing. A major inherent virtue of this approach has been its amenability to ready quantification. Characteristically, attitude questionnaires have been administered to parents of children who have been, or who are about to be, differentiated with respect to some behaviors or personality characteristics. As with the preceding material on clinical and interview approaches, a detailed review of the substantial amount of work that has been done in this subarea will not be attempted; nevertheless we shall want to describe the basic orientation through the medium of several illustrative studies.

A very early investigation illustrating this approach is Read's study (1945), in which parent attitudes were measured in terms of responses to the Stogdill and Goddard questionnaires. Children of mothers who expressed greater approval of freedom for the child, were rated as having considerably more favorable behavior in a nursery school situation than children of mothers who believed in strict parental control.

Shoben (1949) has done a careful job in developing a parental attitude questionnaire and testing the hypothesis of a relationship between child adjustment and parental attitudes. Using the questionnaire developed for the study to assess the attitudes of dominance, possessiveness and ignoring, he was able to differentiate between parents of problem and nonproblem children. The problem children were predominantly juvenile offenders and clinical cases. In a cross validation study he was able to demonstrate significant correlations between these three attitudes in parents and their children's adjustment. Shoben reports highly satisfactory reliability and validity coefficients for this 85-item scale.

In a later research, also using the Shoben instrument, Freeman and Grayson (1955) studied the child rearing attitudes of 50 parents of adult schizophrenic patients and 50 parents of nonschizophrenic controls of the same age. It was possible to demonstrate that the mothers of the schizophrenic groups tended to show poorer child rearing attitudes, particularly so with respect to the dimensions of possessiveness and ignoring.

Mark (1953) developed a parental attitude survey similar in form but somewhat different in content from Shoben 's scale. This 139-item test was given to the mothers of 100 schizophrenics and 100 controls, and it was found that 67 per cent of the item responses significantly differentiated these two groups. The mothers of the schizophrenics were found in general to be more restrictive with respect to control of the child, and to deviate with respect to warmth by showing either "excessive devotion" or "cool detachment."

Recently Schaefer and Bell (1955) report the development of a new scale, the Parental Attitudes Research Instrument (PARI) for the measurement of parental attitudes to child rearing. In a subsequent paper (1957) these investigators describe a factor analytic study based on the PARI. Five independent parent attitude factors were identified, and the relationship of these factors to existing attitude scales was considered. Relative to its newness, there has been a reasonable amount of substantive work done with the PARI, most of which postdates the current investigation. For example Zuckerman, Ribbach, Monashkin and Norton (1958), in an extensive factorial study based on the responses of 222 mothers of a variety of groups of children, came out with three basic factors, authoritarian-control, hostility-rejection, and democratic attitude, which are quite similar to the factors described earlier by Schaefer and Bell. Of some interest is the finding by these authors that education correlated significantly with favorableness of attitude on the preponderant number of original PARI subscales.

Several PARI studies have attempted to contrast attitudes of parents of schizophrenics as compared to parents of normal *S*s. For example Zuckerman, Oltean, and Monashkin (1958) report no consistent differences in PARI attitudes between mothers of schizophrenics and normals; however they find a significantly greater correlation between educational level and favorableness of attitude within the group of schizophrenic mothers. Klebanoff (1959) using the PARI to compare attitudes of mothers of schizophrenics, brain-injured and mentally retarded, and normal children, was unable to find a cluster of responses which differentiated the mothers of the schizophrenic chil-

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dren, and might thus be construed to be at least partially causal to the child's condition. Instead it appeared that the fact of having a "different type" of child, whether schizophrenic or brain-injured, or defective was the common element eliciting consistent parental attitudes. On the other hand Shepherd and Guthrie (1959), after a factor analysis of the responses of mothers of schizophrenics on the PARI report the existence of five clear-cut clusters which they interpret as indicative of the existence of "schizophrenogenic" maternal patterns of attitude.

Very little has been done to extend the study of the parent attitude—child adjustment hypothesis more specifically to the area of visual disability. The information that has become available in this latter area however, supports the supposition that this type of relationship may be a potentially fruitful one to investigate more carefully.

For example, the study by Sommers (1944) cited above deals specifically with the relationship between child-rearing attitudes in the parent and adjustment of the visually disabled child. Parental attitudes in this research were assessed by three judges who rated each parent on a five-point scale for four dimensions: acceptance or rejection of the child, child's social status in the family, protectiveness toward child, and modes of adjustment to child's handicap. The judges worked independently from material gathered in interviews with 50 parents. Estimates of adjustment in the children were made by the same judges, rating again on a five-point scale along four dimensions: one concerning general adjustment, one referring to adjustment to school and two dealing with adjustment to the handicap. Sommers reports very impressive correlations ranging from .4 to .9 between the attitudes of the parents and the adjustment of their children along all dimensions. She concludes that adjustment is generally related to parental attitudes and that maladjustment arises from social attitudes, especially of parents, rather than from blindness itself. Whether or not these conclusions are justified rests on the adequacy of the ratings and the independence of child and parent ratings. Since the same judges had access to both sets of materials, the high correlations may be a reflection of the raters' knowledge of parent material while rating a child or vice versa. In addition to having both sets of information, the three judges had known the parents and children for at least two years. On this basis, it is somewhat difficult to justify the independence of ratings of parents' attitudes and children's adjustment.

Barry and Marshall (1953) present an interesting report of an investigation of the relationship between various maternal training methods and attitude indices in relation to the school adjustment and behavior of retrolental fibroplasial and other visually disabled children between the ages of five and seven. Parental attitudes with respect to the variables of rejection and interest were determined through ratings made by social workers on home visits. An index of adjustment was derived from ratings by ten teachers and house mothers for ten behavioral traits and attitudes in the child. In like manner a "maternal training" index was derived from the social workers' ratings and reflected positiveness of attitude by the mother. It was found that children of mothers with positive nonrejectant attitudes had been rated as significantly better adjusted in the school situation than those of parents with rejecting attitudes; this difference was quite clear-cut and significant for the retrolental fibroplasia group, and approached significance for the other visually disabled *S*s. Although reliability figures for the two critical judgments (adjustment and maternal attitude and training) are not provided, the substantive findings in this study are of potential importance.

Thus we may observe on the basis of the clinical-interview-rating scale tradition, as well as attitude scale studies, both applied primarily to nondisabled *S*s, that there is an ample basis for anticipating relationships between parent child-rearing attitudes and behavior, on the one hand, and the behavior and adjustment of the child on the other.

Champney (1941) has spelled out the underlying hypotheses which he considers to be basic to this area of inquiry:

1) Parents behave with sufficient consistency to differentiate themselves from other sets of parents.

2) Characteristics of parent behavior are related to the adjustment of their children.

These hypotheses as stated appear to be adequately confirmed by subsequent empirical study; in particular, the second of them seems to summarize succinctly the essence of this aspect of our inquiry. While Sommers' and Barry and Marshall's work extends the plausibility of this relationship to the area of visual disability, their findings are weakened somewhat by limitations in design and methodology in the two studies. In that sense the present research will, hopefully, provide a somewhat more rigorous test of this hypothesized relationship.

D. SOCIOPSYCHOLOGICAL PHENOMENA

Our interest in the possible relationships between sociopsychological attitudes in areas such as authoritarianism and antiminority feelings and adjustment derives primarily from earlier theorizing and some beginning research in the field of disability. Several writers have, in the past, conceptualized the position of the physically disabled in our society as characterized by three major psychodynamic features: (a) it is underprivileged, (b) it is marginal or subject to overlapping psychological situations, (c) it involves exposure to new psychological situations (Barker, 1948; Barker et al., 1953; Meyerson, 1955; Wright, 1960). It is the first of these three hypothesized dynamic attributes which is most germane to our present interests. For here it is implied that the physically disabled person shares with racial and religious minority group members a drastic restriction in the number of important life space regions which are accessible to him (Lewin, 1935). Illustratively, Barker states:

> Physically disabled persons cannot participate in many activities which physically normal people value highly. Thus, the employment opportunities open to disabled persons are sharply limited, and where opportunities do exist, the higher levels are severely restricted. Likewise, the social and recreational activities in which disabled persons are able to engage are limited. In these respects the physically disabled person is in a position not unlike that of the Negro or the Jew or other underprivileged minorities; he is a member of an underprivileged minority. (1948, p. 31.)

This type of theorizing, originally proposed as a generalized formulation for all physical disability groups has been extended more specifically to the blind (Himes, 1950; Braverman, 1951; Rusalem, 1950). Thus, Rusalem (1950) states that the blind person has the status of any other minority group member, and is subject to the same prejudices, fears, and negative attitudes by the dominant (sighted) majority group member.

An even more explicit emphasis upon this relationship may be found in the volume by Chevigny and Braverman (1950) in a section entitled "The Minority Parallel." These authors point out the historic similarity between the situation of the blind, and that of racial and religious minorities in terms of factors such as "social ostracism, the creation of a class, and the restriction to areas and sections." In speaking of the possible communality of attitudes toward the blind and minority group members Chevigny and Braverman state "The content of the set of ideas entertained about the blind is certainly different from those entertained about Negroes and Jews, but in matters of operation they are alike." (1950, p. 36.)

On the basis of the foregoing lines of speculation it seemed reasonable to expect that there might be a relationship between verbalized attitudes to blindness and verbalized attitudes toward minority group members as reflected in scales and assessment techniques previously utilized to assess the latter group of variables. Accordingly the present authors, during the instrument development phase of this research program, undertook an independent investigation to test this hypothesis (Cowen, Underberg and Verrillo, 1958). A 30-item Attitudes to Blindness Scale developed explicitly for the present research program (this scale as well as its method of development will be described in greater detail in a subsequent chapter) was administered to a sample of 101 sighted college students together with items from the California Anti-Minority (AM), Anti-Negro (AN) and Attitude to Authority (F) scales (Adorno, Levenson, Frenkel-Brunswik, Sanford, 1950). The rationale for using the first two of these scales should be evident from the foregoing discussion. The F scale was included because the California group in its description of the so-called "authoritarian personality" (Adorno et al., 1950) emphasizes the inclination of these people to dichotomize their world into sharp polarities (e.g. the strong vs. the weak, the good vs. the bad), as part of the generalized characteristic of intolerance of ambiguity (Frenkel-Brunswik, 1949). Parenthetically, Jane and Lucien Hanks (1948) on the basis of their anthropologically oriented survey of cultural differences in attitudes toward disability, propose that negative attitudes toward disability are more likely to be found in authoritarian cultures than they are in equalitarian ones. With these considerations in mind, it was reasoned that high F scale scorers, as well as high AN and AM scorers should be characterized by more negative attitudes to blindness.

The results of the experiment indicated that there were, in fact, significant correlations between the antiblindness measure and the other three measures of sociopsychological attitude. These findings were supported by the results of a small cross validating study (Cowen et al., 1958). That the across scale relationships, although significant, were relatively low is consistent with the viewpoint expressed by Raskin (1956) and Lukoff and Whiteman (1959) that the attitudes of the sighted toward the blind are doubtless multiply caused, with probable psychodynamic, sociocultural, historical and situational determinants. The results of the study nevertheless support the view that the psychological position of the blind and minority group members is comparable in some significant ways. Pertinent to this conclusion Chevigny and Braverman (1950) state:

> In both instances the phenomenon is one of a group of people whom the majority insists on endowing with special characteristics, for whom a stereotype has been evolved which each member of the minority is supposed to exemplify, and the essence of which is the imputation of inferiority. (1950, p. 191)

Our earlier work with college students thus suggested the potential fruitfulness of investigating this broader spectrum of social attitudes in our study of the parents of visually disabled adolescents. In the first place we wished to determine whether the antiblindness—antiminority relationship observed in college *S*s was also true of the parents of blind children. Secondly, we reasoned that if there was to be any process of "covering-up" with respect to attitudes toward blindness resulting from the fact that many of our *S*s were to be approached in their roles as parents of visually disabled children, it might nevertheless be possible to test the relationship between social attitudes of parents and adjustment in children through the medium of the three more subtle (in this context) sociopsychological scales.

Other than our own work which links negative attitudes to blindness with authoritarian and antiminority attitudes, there are several studies which deal with relationships between F scale scores in the parent and behavioral or adjustive measures in the child. Tuttman (1955) reports a study in which the parents of postpoliomyelitic children were tested on a wide variety of attitude scales including the California F scale. The children were rated for adjustment and for acceptance of disability by a team of three psychologist judges on the basis of projective techniques, including figure drawings, Rorschach, the Children's Apperception Test, and a special interview adapted from the work done by Dembo et al, (1952, 1956) on adjustment to misfortune. It was found that children of authoritarian parents were more poorly adjusted and had greater difficulty in accepting their disability than did children of nonauthoritarian parents. For a group of college students, evidence is presented by Kates and Diab (1955) to suggest that high F scale scores are associated with attitudes similar to those held by parents of problem children.

In an interesting study by Dworin and Wyant (1957), the California F scale was administered to the mothers of 19 hospitalized schizophrenic patients, as well as to a group of hospital volunteer worker mothers of nonschizophrenic children of the same age (comparable to the schizophrenic mothers on control variables such as age, education, SES etc.). Mothers of the schizophrenic patients had significantly higher F scale scores than did the control mothers. Moreover an item analysis of the questions comprising the total scale, brought to light a cluster of 11 items which individually differentiated the two groups. The mothers of the schizophrenics were found to place greater emphasis upon conformity, conventionality, and obedience, and to be more demanding with respect to maturity, status, and obedience, in comparison to the control mothers.

On the basis of the studies by Tuttman and Dworin and Wyant, there is further reason to believe that measures of sociopsychological attitudes in parents may be a valuable supplement to child-rearing attitude measures, in seeking out some correlates and determinants of adjustment.

E. PARENTAL UNDERSTANDING

A sound parent-child relationship is an important contributor to healthy development of the child's personality. Investigators such as Brown, Morrison, and Couch (1947); Fitz-Simons (1935); Jenkins (1943); Kasanin, Knight, and Sage (1934); Newell (1934); Roberts and Fleming (1943); and Symonds (1939), using a variety of techniques, have demonstrated that unfavorable relationships with parents are correlated with child maladjustment. More specifically, a number of early studies have been done which investigate parent-child relationships in terms of interpersonal attitudes and behavior (Anderson, 1940; Champney, 1941; Laws, 1927; Long, 1941; Myers, 1935). These studies, however, offered little in the way of determining how well the parent understands the child's feelings of his own attitudes and behavior. Malm and Jamison (1952) discuss the need of the adolescent to be understood by his parent. In their summary of 11 characteristics of a good home they discuss factors such as affection, democratic attitudes, and interest in the child. It is implied that these factors help to promote mutual parent-child understanding.

Although concepts akin to "understanding" have been discussed in the psychological literature for some years, it is only relatively recently that research workers have attempted to define the term more precisely, to measure it operationally, and to examine it in relation to other psychological variables.

Current studies in the area of the relationship between parental understanding and child adjustment have evolved from earlier investigations dealing with the problems of identification and adjustment (Cava and Raush, 1952; Payne and Mussen, 1956; Sopchak, 1952).

Cava and Raush (1952) studied the relationship between conflict in identification with the same-sex parent, as measured by the Blacky Pictures and similarity of interests, activities, and traits as evidenced on the Strong Vocational Interest Inventory in a sample of 37 high school boys. Using Blum's (1950) scoring directions, *S*s were classified as weak or strong in conflict on each of four dimensions of the Blacky Test: œdipal intensity, castration anxiety, identification, ego ideal. A fifth dimension yielded an over-all estimate of conflict. Subjects also filled out the Strong Vocational Interest Inventory, initially for themselves, and subsequently as they guessed their fathers would. The findings indicated that *S*s with the greatest number of father-son agreements on the vocational inventory also manifested less conflict on the Blacky dimension. Strong and weak conflict groups were significantly differentiated in perceived father-son similarities on one Blacky dimension; the results for the other dimensions approached significance in the predicted direction.

Sopchak (1952) employed a similar methodology in his study of identification. However, in this instance, identification with the parent was related to specific types of abnormalities as measured by the Minnesota Multiphasic Personality Inventory (MMPI). A group of 78 male and 30 female college students completed the MMPI, first for themselves and at a later time in terms of how they thought "father," "mother," and "most people" would answer the questions. Identification with father, mother, and most people was measured by the number of items which were answered identically by the *S* for himself and for any of the people for whom he was predicting. The findings generally indicate that there is a correspondence between identification and good adjustment.

In a study by Jourard and Remy (1955) 99 college students completed a 40-item self-cathexis scale for themselves and as they believed each parent would rate them. Attitudes towards physical aspects of the body and traits of self, such as temper and ability to accept criticism, were rated on a five-point scale ranging from strong positive feelings to strong negative feelings. In addition, each *S* completed the Maslow Security-Insecurity Test. The authors conclude that self-appraisal is significantly related to a person's perception of his parents' appraisals of him. Furthermore, negative self-appraisal and perceived negative parental appraisals are significantly associated with feelings of insecurity. Although this study like the preceding ones is aimed at measurement of parental understanding the authors correctly point out that parent evaluations should be assessed directly since reports by students of their parents' attitudes may well be distorted by their own perceptions.

Payne and Mussen (1956) followed this suggestion and improved upon the technique of measuring identification by making use of actual father-son similarities rather than the perceptions of parents expressed through the child. They studied the relationship between identification and both parent-child relationship and child adjustment in a group of 72 adolescents. Subjects and their parents completed a 50-item true-false questionnaire, the items of which were selected from three scales of the California Psychological Inventory. Father identification scores were derived from the number of father-son agreements minus mother-son agreements. Twenty boys high in father identification were matched for age and sociometric status with 20 boys who had low father identification scores. On the basis of their completion of five projective incomplete stories, three quantitative measures of parent-child relationships were obtained based on the number of stories in which mother, father, or family was seen as the source of concrete rewards. In addition, two judges independently rated each story for presence or absence of positive relationships with mother, father, or family, presumably using clinical criteria such as parental understanding, mutual respect, and affection as a base for their judgment. Homeroom teachers' ratings on a five-point scale for nine traits related to social and emotional adjustment were the measure of adjustment. The findings indicated that high father identification is significantly associated with the perception of both mother and father as highly rewarding, affectionate people.

One step away from the child's prediction of parent response was the parent's prediction for the child. Here, emphasis turned away from identification, as such, to another related variable—understanding (Cass, 1952a, 1952b). The latter investigator studied the correspondence between indices of parent-child conflict and child social adjustment, on the one hand, and a combination of the variables of parental awareness and parental control, on the other. A group of 21 seriously maladjusted delinquent adolescent residents was paired with a well adjusted non-delinquent group of adolescents who were selected by their school principal. All *S*s and their mothers completed a check-list questionnaire containing items falling into nine areas: seven of these related to personal preferences, one dealt with fears, and one with descriptive adjectives. Each *S* was asked to choose three of 20 items in each area which he believed were true of himself. Mothers followed the identical procedure in two administrations, answering for themselves in the first and for their children in the second. Awareness scores were derived from the total number of specific items checked alike by *S* and by the mother for *S;* identification scores referred to items checked alike by mother for herself and *S* for himself; projection scores emerged from the number of items checked by mother for herself and for her child, but which were not checked by *S* for himself. A measure of parental control was obtained from a questionnaire consisting of items referring to maternal practices of regulating, restricting and unnecessary helping of the child. Subjects responded to the items in terms of five degrees of frequency of the mother's practice. Parent-child conflict was measured by means of 25 stimulus phrases in the Rotter Incomplete Sentences Blank, completed by all *S*s. Socially maladjusted *S*s were significantly differentiated from socially adjusted children with respect to low parental awareness of children's preferences and fears, high parental control, and high parent-child conflict.

Langford and Alm (1954) used the word "understanding" in their comparative study of parents' judgments and the feelings, ideas, and concepts of their children. Their measurement of "understanding" was identical to that of "awareness" used by Cass. Forty twelve-year-olds including 20 boys and 20 girls, as well as both parents for all *S*s were given the California Test of Personality. The children responded to the items and parents responded as they thought their children would. Correlation coefficients were used to determine the extent of correspondence between parental expectation and child scores for the various subtests. The findings indicated that parents are more understanding of their children's feelings in areas relating to social adjustment (e.g., freedom from antisocial tendencies, family, school, and community relations) than in areas relating to self-adjustment (e.g., self-reliance, sense of personal worth, feeling of belonging). No data were offered with respect to the relationship between accuracy of parental prediction and the adjustment level of the child.

A recent important study with particular relevance to the measurement of understanding in the present study is that of Helper (1958). Following the suggestion of Jourard and Remy (1955, cf. above), he also substituted actual parental evaluations for *S*s' perceptions of how parents would evaluate them. Seventy-four adolescents rated themselves on a seven point scale for each of 42 trait-descriptive adjectives with respect to actual self-concept and ideal self-concept. Each parent evaluated his child in terms of how he usually thought of him and how he most wanted his child to be. Two types of measures were applied to the children's self-ratings and to the parents' ratings of their children: a *favorability* score based on "actual" ratings on 15 items where ideal-self ratings were heavily concentrated toward one end of the rating scale (and were therefore considered to be desirable by raters) and a *self-acceptance* score derived from actual-ideal discrepancies in the remaining 31 items.

Favorability and self-acceptance scores were derived separately for each child and each parent. In addition, child acceptability to his peers was determined from a sociometric study in the classroom. Reliability coefficients for each of these measures were amply high. The results of this study demonstrated low but consistently positive relationships between parental evaluations and *S*s' self-evaluations.

In the final analysis, it is clear that the processes involved in predicting how other persons will behave have been described in numerous ways. Cowden (1955) speaks of "making a temporary identification with a person for the purpose of anticipating what that person is going to do in a certain situation." Dymond (1948) refers to the "imaginative transposing of oneself into the thinking, feeling, and acting of another and so structuring the world as he does." Fiedler (1954) and Gage (1953a, 1953b) indicate the possibility of discovering how accurately one person perceives or understands another through the accuracy of his predictions of the other's responses. Names such as "empathy," "social perception," "insight," "diagnostic competence," "identification," "understanding" have been widely used to describe this basic process of interpersonal perception (Bender and Hastorf, 1950; Bender and Hastorf, 1953; Bruner and Taguiri, 1954; Cottrell and Diamond, 1949; Cowden, 1955; Cronbach, 1955; Dymond, 1950; Gage, 1953a, 1953b; Gage and Cronbach, 1955; Taguiri and Petrullo, 1958).

These terminological complexities notwithstanding, we may observe on the basis of the foregoing research, evidence that a healthy parent-child relationship appears to be an extremely important correlate of sound personality development in the child. More specifically, positive "identification" as determined through the child's perception, or high parental "understanding" as measured by the parents' ability to predict the child's response each appears to relate to good adjustment in the child. Variables such as the latter two have not to our knowledge as yet been applied to the area of visual disability. The strength of the generalizations derivable from the general psychological literature appear to us to justify the anticipation that parental understanding should also relate to adjustment to visual disability.

F. THE RESIDENTIAL SCHOOL

Up to this point we have essentially considered visually disabled adolescents as an undifferentiated total group. In the evolution of our own research program, our initial orientation was toward the visually disabled adolescent living at home and attending a regular day public school.

It is, however, evident that the preponderant majority of early studies having to do with the adjustment of the visually disabled child and adolescent was based on youngsters attending residential schools for the blind. Moreover findings emanating from our original collection of data with home-living visually disabled and otherwise comparable sighted adolescent controls, did not appear to be clearly interpretable nor integratable into a larger body of accumulated knowledge, in the absence of data on visually disabled youngsters in a residential setting. Some investigators (Morgan, 1944) have, in fact, suggested that there may be a systematic factor whereby visually disabled youngsters who show signs of maladjustment in public schools, are selectively filtered into residential schools for the blind. A similar viewpoint is also expressed by Petrucci (1953). This is entirely admissable as a research *hypothesis;* to the extent that it is a sound one we would expect to find consistently poorer adjustment in visually disabled adolescents in residential schools when compared to visually disabled youngsters attending public education facilities and living at home. For all of these reasons we considered it highly desirable to add a residential sample to our basic study.

The problem of the attributes and limitations of residential school placement in terms of its impact upon the child, his general development, his personal adjustment etc., has been a matter of heated controversy for a considerable period of time. It may be helpful at this point to consider briefly the background of the residential school movement, and some of the points of view that have been expressed with respect to its ultimate potential contribution to the development of the visually disabled youngster.

The residential school movement for the education of blind children was started in this country in 1830. In fact such schools were the only facilities available for the education of the visually handicapped up to the beginning of the present century. Thus, historically, it has always been true that the majority of severely visually disabled children in this country were being educated in residential centers. The first day school classes for the blind were opened in this country in 1900 (Frampton and Kerney, 1953). Over the years, most particularly in the past decade, a change in the "balance of power" has been evolving. Illustratively, whereas in 1948 approximately 90 per cent of all blind children were still being educated in residential centers, this figure had dropped to roughly 60 per cent by 1957 (Lowenfeld, 1959). Now as of 1961, the balance, in an absolute sense, has tipped and, for the first time, the number of blind youngsters being educated in public schools exceeds the number being educated in residential schools.[1] Even so, the residential school remains today as a potent factor in any over-all educative program for visually disabled children in America. More extensive histories of the residential and day school movements are available elsewhere (Frampton and Kerney, 1953; Lowenfeld, 1956).

Since the beginnings of the day school movement, but more particularly as public school education became more widespread, there has been considerable controversy between the proponents of the two types of educational facilities. Illustratively Lowenfeld states: ". . . there are people who believe that the residential school has the only successful program for the education of blind children, while others believe that the public schools, and only they can provide the best facility." (1959, p. 28). Despite the fact that current thinking has moved sharply in the direction of emphasizing the need for both residential and day school facilities in a total educational plan for the visually disabled (Cruickshank and Johnson, 1958; Lowenfeld, 1959), there are still many who advocate one or another of the programs as either the only adequate system, or at least, much the better of the two. It may be useful to look briefly at some of the points of view which have been expressed within the past half dozen years on both sides of the controversy.

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[1] Personal communication from Dr. Milton D. Graham.

Frampton and Kerney (1953) in *The Residential School* stress the contribution made by the residential school and its advantages for the visually disabled child. They feel that in reality such students are less segregated in actual experience with other people, subjected to less sympathy and coddling, and have less emphasis placed upon the fact that they are blind. Furthermore, these authors are of the opinion that students of residential schools are more content, have less feelings of inferiority, and are able to become more self-reliant than the pupils of day school classes. They recognize the criticisms against the residential school, and devote a chapter to the discussion of them. They feel that the most serious and damaging of the criticisms are those of segregation or institutionalization, severance of home ties and poor relations with the sighted. The latter arguments notwithstanding, they conclude that there is little question about the superiority of the residential school:

> The residential school for the blind, as we know it today, provides the best system so far conceived for the education of the blind child, and that, because of its vital contributions, the future of the residential school seems secure as long as its leadership continues to meet the standard of social utility and to remain constantly alert to the ever changing demands of a progressive society for richer and more effective service to the blind child. (1953, p. 96)

Residential school placement is also recommended by Farrell (1956) because the visually handicapped child is likely to be more isolated in the public schools, and to have less adequate facilities. He says:

> Isolation in an environment of noncooperating pupils and unsympathetic teachers can be more frustrating to blind children than education away from home in a school where house mothers and teachers understand their special problems and where they will be among their peers. (1956, p. 68)

In strong opposition to the points of view expressed above are those who advocate the day school as the optimal type of educational facility for blind children. In discussing the normal developmental patterns of children with visual handicaps, Mikell (1953) states:

> It is held by most authorities that the best place for the blind child is not

in an institution, but in his own home where his personality may develop normally, and with this I heartily agree. (1953, p. 92)

This same sentiment is even more strongly expressed by Petrucci (1953), who writes:

> Whether or not a visually handicapped child should attend a residential school is no longer a controversial issue among informed people. All children should be reared in a home situation except those who cannot fit properly into society. Therefore, we must concede that all children attending a residential school must have special problems, although the effects of institutional living will vary with the individual. An identical physical environment may produce exactly opposite emotional reactions in different children. (1953, p. 241)

In a review of current educational practices with exceptional children, Cruickshank and Johnson (1958) discusses a variety of educational placements for the visually handicapped child. They express the opinion that there is a need for many different educational plans in order adequately to educate all blind children. With regard to the importance of the residential school, they say:

> In closing this discussion on the residential school it must be pointed out that *nowhere has the abolition of the residential school been advocated.* The residential school is an important element in a total state educational program. Criticisms have been made, and these criticisms are well supported in practice. The major point which must be made is that the residential school has a significant and important role to play in the education of exceptional children and youth, and it must be equipped to play the role. There will always be children who will need the services of the residential school. (1958, p. 58)

From the material cited, it seems clear that individual opinion with respect to the relative advantages and disadvantages of residential school placement for the visually disabled both in terms of its effect on over-all development as well as its impact upon personal adjustment, is, at times, quite strong. Regrettably the type of research data which could illuminate this heated controversy does not as yet appear to be available. Considering prior evidence our belief is that the relative merits of the alternative approaches with respect to their impact on personality development and adjustment is at this time very much open as a question. Hopefully, data deriving from the present investigation, may bring us a step closer to a fact-based answer to what is indeed a question of considerable practical import.

G. THE RESEARCH FOCUS

Our basic aim in the present research program is to gain a fuller understanding of adjustment to visual disability in adolescence. In order to achieve this objective we consider it necessary to develop adjustment measures which are appropriate for visually disabled individuals, and to begin to explore the correlates and determinants of good and poor adjustment to visual disability.

Our survey suggests that previous investigations comparing the adjustment of visually disabled and sighted *S*s have produced strikingly inconsistent findings. On the one hand there is a group of investigations purporting to contain evidence that the visually disabled are significantly more poorly adjusted—while on the other hand there is an equally sizable number of investigations in which no differences between groups are observed. Evaluating these studies in aggregate, they appear to have been sufficiently encumbered by problems of sampling, design, instrumentation and methodology, so that their substantive findings must be seriously questioned. It is only fairly recently that we have started to observe more dynamically oriented, methodologically sounder studies of this very basic area. We are left to conclude as we approach our own investigation, that we do not as yet have adequate data upon which to base generalizations about the adjustment level of visually disabled in contrast to sighted controls.

There appears to be an ample clinical and research base to warrant the belief that parental attitudes and parental understanding each constitutes an important determinant of adjustment in the child. Such evidence is adduced primarily from work with nonhandicapped individuals. Within that context we observe that warm and accepting parental child-rearing attitudes seem to relate to good adjustment whereas hostile rejecting and overprotective attitudes in parents are more likely to co-occur with maladjustive behavior. In like manner the ability of the parent to understand the child and to be able to predict his behavior also seems to be related to good adjustment in the child. Though such relationships between parent and child variables have not as yet been shown in any substantial way to extend to the visually disabled, the weight of evidence from studies with sighted *S*s, as well as several fragmentary suggestions emanating from studies with the visually disabled, justifies the experimental test for the presence of comparable relationships in the blind. From among the many parental attitudinal variables potentially open to study, we have, on the basis of the evidence reviewed, selected attitudes to blindness, minority groups and authority together with child-rearing attitudes as major foci of investigation.

The hard core of our work may then be thought to consist of development of what we hope may constitute more appropriate measures of adjustment to visual disability as a basis for examining afresh the essentially unresolved question of the relative adjustment of visually disabled and otherwise comparable but sighted adolescents, and testing the propositions that positive parental attitudes and high parental understanding will relate to good adjustment. Although we shall be testing these latter hypotheses both for visually disabled and sighted groups, the literature provides no basis for any differential prediction regarding the strength of these hypothesized relationships between groups. Further and more concrete specification of our expectations and predictions must await a more detailed description of the instruments used in the present study. This will be done in the next chapter.

Finally, while we consider the foregoing to reflect the heart and soul of our investigation, there are many issues upon which we hoped to bring information to bear. Prominent among these are the following: a) Are there differences in adjustment between visually disabled youngsters attending a residential school as contrasted to those living in the parental home? b) Within either group is level of adjustment related to degree of disability? c) Is it possible to develop any cluster of items to which sighted and disabled *S*s respond in a consistently different manner? d) Are relations between parental attitude and understanding and child adjustment different depending upon whether we focus on the father or the mother? e) What sorts of consistencies can be found in a variety of measures of adjustment to visual disability, f) What consistencies are there among varying estimates of parental attitude and understanding? Hopefully, consideration of these and other issues may have as a by-product the identification of new areas of potential research fruitfulness.

CHAPTER III

Instruments

RATIONALE FOR INSTRUMENT SELECTION

Perhaps the most serious problem facing the prospective researcher in the area of adjustment to visual disability is the lack of suitable measuring instruments. Frequently, the solution to this problem has been to take over and to utilize techniques labelled as indices of adjustment, which have been developed and standardized on nondisabled groups. Such a resolution, notwithstanding its obvious virtues of relative ease and speed, has been shown time and again in the preceding chapter, to produce findings which are not susceptible to meaningful interpretation. Equally unacceptable as a possible solution for this problem is the alternative of fixing upon the most suitable from among presently available instruments for use with the visually disabled and setting up a research built around the techniques.

In our judgment a preferable approach must start with the selection and refinement of what one considers to be an important problem area. Hopefully having done this for ourselves, we next began an instrument search in order to determine whether procedures which would provide an adequate basis for our study were already available. Regrettably, it did not appear that this was the case.

True, in several areas, particularly ones running closest to the traditional mainstream of psychological research (e.g. attitudes toward child rearing, minority groups and authority), there appeared to be some veteran instruments, with a dignified and successful history in the field of battle, which could potentially be incorporated with only minor revisions into our design. In all instances these were techniques to be used with the parent rather than with the visually disabled adolescent. Even with respect to the problem of measuring attitudes to blindness, while no "pat" measure suitable to our needs was available, there certainly appeared to be what could be considered very helpful building blocks. As may be deduced from the critical and sometimes even harsh tone of our literature survey, our search for promising measures of adjustment for the visually disabled indicated, by and large, that such were not available. Accordingly, it was an early decision of the research group, that substantial pilot methodological work would be a necessary precondition to the undertaking of the substantive portions of the over-all investigative program.

Since our major effort in the area of instrumentation was to be directed toward the development of measures of adjustment for the visually disabled, it is appropriate to pause briefly to consider some of the criteria which guided our efforts. Recognizing painfully well that these have been ideal rather than actual criteria, we nevertheless feel it important to state them explicitly, in the hope that subsequent research will be more effective in those areas where we have failed.

A prime *desideratum* is that the adjustment measures to be developed must have *direct applicability to the visually disabled;* they cannot be taken over from other areas and proclaimed by *fiat* to have comparable meaning. When the latter is done we are confronted with the obvious deficiency of items with "different interpretive significance" (Barker, et al., 1953). Such items which are presumed to reflect personality characteristics in sighted groups may for the visually disabled mirror nothing more than the existence of the disability *per se.* Several illustrations of actual test items which would fall into this category, follow:

1. Do you drive a car rather fast? (Thurstone Temperament Schedule, 1953)
2. Have you ever crossed the street to avoid meeting some person? (The Personality Inventory—Bernreuter, 1935)
3. Are your eyes very sensitive to light? (The Adjustment Inventory —Student Form—Bell, 1938)

Equivalence of meaning is lacking for a sighted and a visually impaired group; thus there is a contamination of meaning of item responses, and presumed personality factors may readily be confused with physical limitations for the disabled respondent.

Several workers have actually attempted to produce measures which would not be subject to this type of criticism. For example, Bauman (1954) has developed a 185-item, true-false scale (Emotional Factors Inventory) specifically for use with blind adults. Basic data on standardization, validity or reliability, however, are lacking. Maxfield and Fjeld (1942) have adapted the Vineland Social Maturity Scale for visually handicapped preschool children. Neither of these instruments, however, was considered appropriate for use in the current study if only because of the age differential between the present groups and those studied in the foregoing investigations.

A number of things can be done in developing instruments which are more appropriate for a visually disabled sample. Items can be selected in the first place with awareness by the test constructors that they are to be used with visually disabled samples. Judges who have had experience with visually disabled *S*s can be used to assess item relevance. Pilot testing with visually disabled groups can help to determine the suitability of materials which have survived earlier screening and pruning. And, as an ultimate ideal the test itself can be standardized and validated with visually disabled groups.

A second criterion by which our thinking was guided is that of *objectivity*. Not infrequently in the past, judgments with respect to the adjustment of visually disabled *S*s have been based on an experimenter's opinion, globally stated. While such opinions may in some instances constitute a valuable source of data, they must nevertheless be regarded as potentially subject to bias, subjectivity of definitions, and difficulties in replicability. Moreover they tend to add little to our understanding of the role of specific aspects and determinants, in what is a very complex total adjustment process. Accordingly we perceived a considerable need to develop objective indices of adjustment, which would reflect specific subcomponents and areas of the global adjustment.

While objectivity in measurement is a desirable end, it is certainly not an end to be achieved at all costs. It is, for example, often true that it may be easiest to be objective in the measurement of phenomena of relatively minor interest. Watson (1952) points out in the context of psychotherapy research, that objectivity must not be achieved at cost of sacrificing identification of the more meaningful aspects of adjustment. We considered it to be of some importance as another criterion to seek to reflect the *dynamic quality of adjustment,* i.e. the more basic or central elements and processes.

Another consideration guiding our development of adjustment measures was that they should reflect a *wide variety of situations.* Quite frankly, in view of the underdeveloped state of adjustment indices for the visually disabled, we were unwilling to put our eggs in any single basket. We considered it important: that our measures reflect the home situation as well as the school situation; that they reflect the internal frame of reference of our visually disabled and sighted respondents as well as the external frame of reference of the important others in regular contact with them; that they include techniques which were objective in nature as well as projective. In part this approach reflects our lack of confidence in being able to locate a "Dr. Ehrlich's magic bullet" for the assessment of adjustment to visual disability. In another sense it betrays the belief that there may be situational components to adjustment. And finally it mirrors the conviction that knowledge in this area may best be served by a multifaceted exploration at this stage when we are so much in need of promising leads which can then be subjected to more intensive follow-up.

The foregoing may be regarded as the factors which were uppermost in our thinking during the instrument development phase of the research. It should be emphasized that the more traditional *sine qua nons* of test development—reliability, and especially validity, are deemed essential in the present study as well. In addition, there were several other considerations which although secondary to the ones already described, were nevertheless present. We considered it desirable though not essential that our techniques be *grounded in psychological theory,* wherever possible, on the assumption that this would provide a sounder basis for interpreting findings, and a more fruitful framework for the generation of further hypotheses. Finally, to the extent possible, we hoped that some of the techniques emerging from the present study might serve as *formal models* for subsequent work with other disability groups. This is based on the supposition that there is a hard core of common problems with a high degree of structural comparability, cutting across all fields of disability. This is not to say that content may be unthinkably interchanged on tests for the blind, deaf and orthopedically disabled, but rather that these groups may be linked conceptually, and that each one may therefore provide particularly helpful leads to be modified in subsequent extensions to the study of other disability groups.

Our fairly stringent preconceptions regarding matters of instrument development gave rise to an important practical problem. Instrument development is a major and very time-consuming process, which demands careful screening procedures, pilot testing, adaptation and perfection of techniques and reliability and validity studies. Such methodological work, vital as it may be, does not produce immediate, tangible, concrete or dramatic substantive findings. Accordingly, for many it tends at best to be minimally attractive and is perhaps even unacceptable to some prospective fund granting organizations. It soon became apparent that we would have to forfeit considerable refinement of the instruments, in order to insure execution of the substantive portions of the study. While every attempt was made to follow good research practice in our test development, the authors must frankly admit that we have all too often cut methodological corners, with the inevitable consequence of increased instrument vulnerability. Deficiencies will become more obvious as we describe techniques more concretely; these we consider to be a prime source of weakness in our work.

DESCRIPTION OF INSTRUMENTS

Our basic instruments fall readily into three categories: measures of adjustment, measures of parental attitude, and measures of parental understanding. These measures run the gamut from ones which were developed virtually *de novo* for purposes of the present research to others which were taken over with only minor revisions from preceding work. We shall describe these measures according to the above categorization, with a preponderant emphasis, both with respect to rationale and concrete operations, upon the techniques developed specifically for this study.

A. *Measures of Adjustment*

Three basic instruments provided the fundamental basis for deriving our measures of adjustment: The Self-Ideal Sort, the Teacher's Behavior Rating Scale and the Situations Projective Test.[1] These tests provided a total of seven different adjustment indices.

1. *Self-Ideal Sort*

Within the framework of modern phenomenological theory (Snygg & Combs, 1949; Rogers, 1951) self-perceptions and self-regarding attitudes have occupied a central role in attempts to comprehend the nature and determinants of adjustment. Initially measurment of variables was undertaken using self-references in psychotherapy as an operational index of self-concept (Raimy 1948; Sheerer, 1949, Stock, 1949). On the basis of some apparently fruitful leads deriving from this early work, self-concept study was extended outside the orbit of psychotherapy through the development of a series of paper and pencil type instruments each purporting to measure some aspect of self-concept or self-regarding attitude (Berger, 1952; Bills, Vance and McLean, 1951; Bills, 1958; Brownfain, 1952; Calvin and Holtzman, 1953; Fey, 1954; Phillips, 1951). Although the specific names given to the measures varies from scale to scale, in general, they appear to fall in two major categories: a) *level measures,* or how high the respondent rates himself with respect to various self-relevant dimensions such as "positive self," "self-acceptance," "ideal self" etc., and b) *discrepancy measures,* based on disparities between self-ratings obtained from two frames of reference, as for example, self-concept minus ideal self (Bills et al., 1951) or positive self-concept minus negative self-concept (Brownfain, 1952). Evidence reviewed elsewhere (Cowen, Heilizer and Axelrod, 1955) suggests that relationships have been demonstrated between level and discrepancy indices and outside measures of adjustment.

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[1] A fourth measure, the Ball-Bernardoni Auditory Apperception Test (AAT) (Ball and Bernardoni, 1953) was also used. These data, although not part of the three component theses (Underberg 1958; Verrillo 1958; Benham, 1960) were to have been analyzed and included in the present report. In the course of an interminable series of physical movings of the data, a large segment of the AAT protocols was inadvertently lost. Hence there will be no further reference to this originally planned phase of the research.

Our interest, for purposes of the present research problem, is with the notion of self-concept discrepancy and the theoretical rationale underlying it. Rogers (1951) has proposed that psychological adjustment exists when one's concept of himself is roughly congruent with his experiences. In like manner good adjustment should be characterized by a self-concept which is not substantially removed from one's concept of the way he would like to be. If these two concepts are grossly inconsistent with each other, the organism should experience heightened conflict and tension and should thus be maladjusted. Moreover, where in the rating of any *given* trait the respondent's self-concept and ideal self are highly discrepant, a state of conflict surrounding that characteristic should exist. Support for this inference has been derived on the basis of empirical data showing, for example, slower word association responses (Roberts, 1952), higher perceptual thresholds (Haigh, 1951) and impaired learning rates (Cowen et al., 1955) for words with high self-ideal rating discrepancies in contrast to words without rating discrepancies. At a much more basic level Butler and Haigh (1954) present strong evidence showing that individuals seeking therapy have significantly greater self-ideal discrepancies than do randomly selected control *S*s. Accordingly there is some reasonable basis for believing that large self-ideal discrepancies may, in fact, reflect maladjustment; moreover in principle this is a type of index which should have applicability to visually disabled as well as sighted *S*s.

By and large, two techniques have been used in trying to assess self-ideal discrepancies. The first of these, already alluded to, is a simple rating technique wherein *S* is asked to rate himself first with respect to self-concept and then for ideal self in terms of a series of trait descriptive adjectives or personality relevant phrases. Rating scales ranging anywhere from five to eleven points are typically used for this operation. The discrepancy measure is determined by summing without respect to sign the absolute differences, for the full series of ratings, between self-concept and ideal self. Presumably the higher this summed discrepancy score the greater is the conflict and tension and the more maladjusted is the respondent.

The second and more recent approach to the measurement of self and ideal discrepancy is the Q technique pioneered by Stephenson (1953), and utilized extensively and effectively in the Chicago studies on the effects of psychotherapy (Rogers and Dymond, 1954). In standard Q sort practice the *S* is given a sizeable pool of self-referent statements, each appearing on a separate card, and is asked to sort these into a number of piles ranging in descriptive labels from "most like me" to "least like me." Although the form of the sort originally approximated a forced normal distribution, subsequent evidence (Livson and Nichols, 1956) suggests that a rectangular distribution may actually yield more discriminatory findings. In any case the *S* first does a sort for self-concept, and later for ideal self. A correlation between these two sorts is computed. High positive correlations are presumed to reflect a congruence of self-concept and ideal self, while zero or negative correlations would indicate either a lack of correspondence or a negative correspondence. It should be evident that high positive Q correlation and low rating discrepancies are functionally equivalent; each presumably reflects correspondence between self and ideal and hence good adjustment. Similarly low or negative Q correlation and high rating discrepancy would each be thought to reflect maladjustment.

It was our belief that the development of an instrument embodying the basic principle of self-ideal discrepancy, because of the substantial theoretical substrate as well as the availability of some empirical evidence of its validity, could constitute one important anchor point in the appraisal of the adjustment of our visually disabled and sighted adolescents. Having reached this decision it was apparent that some major practical hurdles would have to be surmounted. Q sort, which is an administratively and analytically "neat and clean" technique for use with sighted *S*s, requires that the individual simultaneously keep in mind a very sizable number of statements in order to impose relative weightings on these items with respect to self-perceptions. To do this expeditiously visual cues are vital. The possible alternative of putting the pool of self-referent statements on braille cards, would at best have been an extremely slow and cumbersome procedure, and even so it is doubtful that *S*s could have kept in mind simultaneously the very large numbers of items constituting the typical Q sort pool.

In order to circumvent this problem, Jervis (1954), who has also been interested in studying the self-concept of the visually disabled, employed a direct item rating procedure based upon a five-point rating scale. With such ratings made by *S*s both for self-concept and ideal self, in effect, we have a D-score type measure comparable to those described above. This technique allows the *S* to deal with each item independently, an adaptation which makes it more effective for use with visually disabled *S*s.

Unfortunately, for purposes of the present experiment, the Jervis modification did not appear to be satisfactory. Since Jervis was concerned primarily with summed self-ideal discrepancies for a given *S* the fact that different *S*s may have had different response sets or response tendency behaviors (Cronbach, 1946; Cronbach, 1950; Jackson and Messick, 1958) was of relatively little consequence. That is to say even though unique (e.g. consistently high or consistently low) response characteristics might differentially influence the absolute level of both self and ideal ratings for *different* *S*s, they should do little more than add or subtract a constant to each of these ratings for any *single* *S* and hence should not materially affect the summed self-ideal discrepancy score.

Our proposed experimental situation was substantially different in that it involved at least two raters for a common pool of items (i.e. mother and child). Because of this requirement the use of a Jervis type technique would not have allowed us to distinguish between those situations in which mother-child rating discrepancies reflected true differences in perception as opposed to differential response sets. The possible solution of normalizing each *S*'s data by some type of standard score technique was rejected since it would presuppose that absolute differences were, in fact, due to differential response sets. It seemed entirely possible to us that this could have been so in some instances but not in others.

Thus it seemed evident that we required a technique which: a) reflected self-ideal congruence, b) was functionally manageable and practical in time requirements for the visually disabled and c) yielded true differences in estimate rather than differential response sets. In order to meet the second of these requirements it appeared likely that we would have to work with much smaller units than had been used in most Q sort studies. To meet the third, it became evident that a ranking type procedure would be preferable to direct rating.

As an initial step in the development of such an instrument we collected a pool of 164 self-referent propositions culled primarily from the instruments used by the Chicago group (Rogers and Dymond, 1954) and by Jervis (1954). Two of the authors (R.P.U. and R.T.V.) screened these items individually in order to eliminate those which did not appear to be appropriate either for adolescents or for the visually disabled. Unless both judges had independently considered the item to be a suitable one it was eliminated from the pool. Additionally, the judges cooperatively revised some of the items in order to make them as short as possible, simplify wording wherever possible, and increase the likelihood that content would be appropriate for adolescents in general and for the visually disabled in particular. This procedure yielded a reduced pool of 91 statements.

This reduced pool was then given to five new clinically trained judges (three Ph.Ds and two advanced graduate students) who were asked to indicate whether acceptance of a given proposition would be indicative of good adjustment, or did not bear on the question of adjustment. The instructions emphasized that acceptance of an item should be interpreted to mean that it was true of the respondent; in other words judgments were to be based on the face value of the response rather than in terms of hypothesizing possible clinical significances which might be reflected in the acceptance of a proposition. Appendix A presents the instructions to the judges for this rating procedure. For this task and in all subsequent judging procedures, the judges worked independently.

Using 100 per cent agreement among judges as our criterion, it was possible to establish a pool of 60 items, 30 of which had been judged to reflect good adjustment, while the other 30 presumably reflected poor adjustment. At this point, having decided on the probable preferability of a ranking procedure using relatively small numbers of items in any single block, it was necessary to undertake a pilot study in order to determine concretely an optimal form for the emerging technique. Such a study was carried out with a sample of *S*s at the New York State School for the Blind in Batavia, N. Y.[2] Our evaluation started with the development of two test forms, one with ten blocks of six statements each and the other with six blocks, each containing ten statements. Assignment of a particular statement to a block and its position within that block was randomly determined in each case. However, each block had an equal number of items indicating good adjustment and poor adjustment. It soon became apparent that ten statements were too many for the visually disabled adolescent to keep in mind simultaneously. Consequently using this method, administration time and fatigue effects were very much increased. For these reasons the final form of the instrument includes ten groups of six (three "well adjusted" and three "poorly adjusted") statements. This set-up appeared to work very smoothly, and was both interesting and motivating to the respondent.

In the administration of the self-concept instrument, *S* is asked first to choose the one statement of the six which he feels is most like him and then to choose the one of the remaining five which he feels is least like him. This procedure is followed until all six statements in a given block are ranked. Subsequent blocks are handled in the same fashion.

The procedure for the ranking of ideal self is the same except that *S* is first instructed to choose the statement which describes the person he would most like to be and then to choose from the remaining statements the one describing the person he would least like to be, etc. Appendix B presents the final instructions to *S*s, test items used and their rated direction with respect to adjustment, for the self-ideal sort.

Two indices of adjustment are derived for each *S* on the basis of the self and ideal sorts that he has performed.

a. *Self-Ideal Discrepancy Score (Discr).* For each set of six items, a discrepancy score is computed between the rank placement of the item on the self sort and the rank placement on the ideal self sort. The total self-ideal discrepancy score is the sum of the rank discrepancy scores for each of the ten blocks of statements. Consistent with earlier theoretical formulations (Berger, 1952; Block and Thomas, 1955; Chodorkoff, 1954; Hanlon, Hofstaetter and O'Connor, 1954; Jervis, 1954; Rogers, 1951; Rogers and Dymond, 1954), it is assumed that the greater the magnitude of this summed discrepancy score, the more poorly adjusted is the *S*.

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[2] The authors are deeply appreciative to the late Edward H. Brayer, then principal, for his kind cooperation and support in this as well as other aspects of our work.

b. *Self-Concept Adjustment Score (SC Adj).* This measure is derived in part from the same data used to determine the self-ideal discrepancy score. In this case, however, only the self-rating data is used. For each block of six items, the adjustment score consists of the summed ranks of the three statements prejudged to be indicators of good adjustment. Thus the best possible adjustment in any single block of six statements is the lowest rank total (i.e., ranking the three good adjustment items one, two, three, for a total of six) and the poorest possible adjustment score in a single block is the highest rank total (i.e., ranking the three good adjustment items four, five, six for a total of fifteen). Since this general procedure is repeated for ten blocks of six statements each, the best possible total self-concept adjustment score is 60; the poorest is 150.

Separate reliability estimates for this instrument were not obtained; however the comparable Q-sort adjustment score reported by Dymond (1954) had a test-retest reliability of .86. Their instrument, although based on a traditional Q-sort, was developed in the same general fashion as the one used in the present study.

2. *Teachers' Behavior Rating Scale*

The development of this instrument was prompted by the need for an outside objective measure of adjustment based on the youngster's behavior in day-to-day school situations. An instrument was needed that would be applicable for use with adolescents and one which would neither penalize the sighted nor the visually impaired by the nature of the content. No existing scale appeared to meet both these requirements.

Material for the construction of this scale was drawn from the Swift (1945), Haggerty-Olson-Wickman (1930) and Schrager (1955) scales. Twelve behavioral characteristics were chosen from Swift, two from Schrager, and two from Haggerty-Olson-Wickman. Three were added by the investigators. After this selection, descriptive items were written to represent varying degrees of each characteristic. The characteristics were then submitted to judges in a two-stage process as follows: First, five high school teachers and five advanced graduate students in psychology were asked to rank the four to six options under each of 16 characteristics of behavior according to the degree of the characteristic represented by that option. For example, using the behavioral characteristic "Dependence on others," the options ranged from "Demands attention continually. . . . Asks for unnecessary help" to "Rejects any attempt to give him help. . . . Completely independent, aggressively so." These options were presented in random order. Instructions to the judges for this ranking procedure are presented in Appendix C. The extent of agreement in ranking among judges was computed using the coefficient of concordance (Siegel, 1956). Concordances ranged from .43 to 1.00 and all *p* values were .01 or beyond. This procedure established that for each category the descriptive subitems could be discriminated from each other and tended to fall along a continuum.

In order to establish a weighted numerical score for each item as a basis for computing a total adjustment score based on the full scale, the same characteristics and items were next submitted (with items randomized within characteristics) to five new advanced graduate student judges, who were asked to rank items with respect to the degree of adjustment they reflected. The instructions for this aspect of the judging procedure are presented in Appendix D. Once again a coefficient of concordance was computed for each characteristic to determine the extent of agreement among the judges. The coefficients of concordance ranged from .69[3] to 1.00; all *p* values were .01 or beyond. Pooled judge ranking served as a basis for assigning weighted scores for the various options under each behavioral characteristic. In those cases where pooled rankings for two options were equal, the same score was given to each of them. The higher the score, the better was the level of adjustment considered to be. Appendix E. presents the instructions and items for the final form of the scale together with the weights assigned to each option.

The scale was presented as a behavior rating instrument rather than one which measured adjustment, in order to eliminate as much bias as possible and to focus attention on concrete aspects of behavior.

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[3] The coefficient of concordance for one characteristic was .16. This characteristic was dropped from the scale.

The teachers were asked to check the one statement of those given for each behavioral characteristic which best described the behavior of a particular student. This procedure was followed for each of the 18 characteristics presented. The one statement checked for each of the 15 behavioral characteristics (used in the computation of the adjustment score) received a weighted score as determined in the procedure outlined for the development of the instrument. The 15 scores were then added together to arrive at a total adjustment score. Whenever two teachers' ratings were available for an individual *S* the results were averaged. The best possible total adjustment score was 66; the poorest possible total adjustment score was 15.5.

Regrettably, it was not possible to establish specifically the reliability of the instrument before the study got underway. Such an estimate would have demanded rating of a sizable number of *S*s by the same teachers. Because of limitations in time, money and the difficulties in obtaining the cooperation of teachers it was not feasible to do this. We were however able to compute reliabilities based on all *S*s, for whom two sets of teachers' ratings were available in the present study. For 43 *S*s in our E_1 group, the rater reliability was .55. The comparable figures for 36 *S*s in the control group, and 56 *S*s in the E_2 groups were .54 and .50 respectively. Although these reliabilities are not optimally high, they are all significant at p .01 or beyond, and suggest that there is at least modest agreement by raters in describing these behavioral characteristics.

3. *Child Perception: The Situations Projective Test B (SPT B)*

This instrument developed from scratch for use in the present investigation, may not strictly speaking be regarded as a measure of adjustment. Although there is a certain amount of face validity inherent in its development, adequate evidence of its empirical validity is as yet lacking. It is nevertheless presented in this section because, in the judgment of the authors it belongs generically with the other indices of adjustment.

The test was devised as an objectively scoreable projective type device, flexible enough to provide a basis for assessing parental attitudes, parental understanding and child perceptions. Its relevance to the broadly construed area of adjustment stems to a considerable extent from Bauman's earlier work (1954). In her investigation adult blind *S*s rated as well adjusted and poorly adjusted were asked to respond to the question "How does your family feel about your blindness?" These responses were classified with respect to perceptions of pity, overprotection, rejection and acceptance. Well adjusted *S*s were found to perceive significantly more acceptance; in addition they tended, though not significantly so, to perceive less emotionality and less rejection than did the poorly adjusted *S*s. Perception of overprotection did not differentiate the two groups.

On the basis of this work, it was decided to develop a multiple choice projective type test which would incorporate perceptions of pity, overprotection, rejection, and acceptance. Ideally, we felt that such a test should possess several important attributes: a) it should be capable of depicting fairly commonplace mother-adolescent interactions, b) its content should be suitable both for sighted and visually disabled *S*s and c) it should be susceptible to an objective and reliable scoring system. A survey of existing and often used pictorial projective techniques (Thematic Apperception Test (Murray, 1943), Symonds Picture-Story Test (Symonds, 1948), Michigan Picture Interpretation Test (1953), Childrens' Apperception Test (Bellak, 1949)) suggested that none of the available instruments satisfied all of the above criteria. As an initial step in the development of the SPT a series of 63 possible mother-adolescent interactions was originated by the experimenters. From this pool, 12 situations were selected as potentially best filling the first two of the above criteria. Then scenes were drawn (RTV) depicting each of these interactions. In these line drawings, facial expressions were left blank, so that they could not influence the choice of an option by sighted *S*s. The mother and adolescent appear in each picture, although in some, other figures appear as well.

Following a general search of the literature focusing on parent attitudes, a definition for the variables perceived "pity," "overprotection," "rejection" and "acceptance," was developed. Based on these definitions, eight options for each situation were constructed. These options were worded in terms of possible perceptions an adolescent might have of his parent's attitude in each situation. The judging procedure was as follows: a brief objective description of the situation, a line drawing of the situation, and the eight options (for each of the 12 situations) were given to five clinically trained judges. They were asked to categorize each of the eight options for each situation as to whether the option indicated perception of pity, overprotection, rejection, acceptance. Where the judgment could not clearly be made, the judge was permitted to check "undecided." The detailed definition of each of the above categories given to each judge, is presented in Appendix F. On the basis of the highest per cent of judge agreement, one option for each of the four categories was chosen for each situation to be incorporated in the final scale. The options chosen for perceived overprotection, rejection, and acceptance had 100 per cent agreement for all 12 situations. In the case of perceived pity, there was 100 per cent agreement for only five situations, 80 per cent for six, and 60 per cent agreement for the last one.

The four options listed in random order for each scene, were typed on 3 x 5 cards under an objective description of the scene. In administering the test each scene was presented to the sighted *S* and the card containing the four options and the description of the scene was read to him. The *S* was then asked to rank the four options in order of his preference. Appendix G presents instructions to the *S*s, the series of 12 stimuli, the objective descriptions of each scene and the response options reflecting the categories of perceived pity, overprotection, acceptance and rejection. Administration differed for the two groups in that the visually disabled *S*s did not view the pictures, but based their responses solely upon the objective description of the scene read to them by the investigator.[4] The *E*s recorded the responses of all *S*s. Ranks assigned to the options by the *S*s were scored in inverse order, (i.e. a score of one was assigned to a rank of four and a score of four was assigned to a rank of one) for each of the four response variables. A high total score thus reflects high perception of a particular variable. The range of possible scores for each variable is 12 to 48.

Crude split half reliabilities (r_{11}) as well as Spearman-Brown corrections (r_{nn}) were computed separately for each of the four categories of adolescent perception. This was done separately for three sets of data: our original sample of 71 visually disabled adolescents (E_1), living at home; the 40 sighted controls (C), and the final sample of 56 visually disabled adolescents attending residential schools (E_2). The corrected reliabilities for E_1 and C ranged from .38 to .87, all significant at .01. For the E_2 group however, for reasons not clear to the authors, the reliabilities fell sharply and only the acceptance scale appeared to be sufficiently reliable. Findings based on this instrument with our E_2 group, must be interpreted with this restriction in mind. Appendix H summarizes the corrected split half reliability coefficients for the four SPT-B measures for the three groups.

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[4] Since this discrepancy in administration could potentially have influenced the results in the present study, a further study was done testing an additional 38 sighted *S*s under the same conditions used with visually disabled *S*s. When compared to the control *S*s in the present study no differences obtained for perceived overprotection, rejection or acceptance, but pity was perceived more ($p = .05$) by the *S*s not having the picture stimulus; thus the added structure supplied by the pictures apparently influences the choice of pity items. Obviously interpretation of group differences on this variable, would have to be tempered by this consideration.

B. *Measures of Parental Attitude*

1. *The Master Scale*

The backbone procedure used in the assessment of parental attitudes is the Master Scale, which in format is a single unified scale consisting of 150 items. Although so presented it actually is made up of three broad classes of items each of which will be discussed in turn. These include:

a. generalized attitudes toward child rearing,

b. broad sociopsychological attitudes toward minority groups and toward authority, and,

c. specific attitudes toward aspects of blindness.

Each item is in the form of a statement to which the *S* responds by circling one of four options: strongly agree, mildly agree, mildly disagree, or strongly disagree. With the exception of attitudes toward blindness, these measures have, by and large, been adapted with only minor modifications from existing instruments. Accordingly, instrument descriptions here will be briefer than those provided in the preceding section for our adjustment indices.

a. *Attitudes toward Child Rearing.* A general investigation of earlier research literature indicated that the dimensions of dominance, overprotection, rejection, and acceptance have been frequently used as a basis for classifying parental attitudes. Definitions of these variables were written on the basis of descriptions in the literature (see Appendix I for these definitions), and items fitting these descriptions were selected from the Parental Attitudes Research Instrument (PARI) developed by Schaefer and Bell (1955). Items were selected on the basis of highest discriminating power.

Internal consistency reliability coefficients for the subscales of this instrument are reported by the authors to range from .43 to .85 with only two of the estimates falling below .62. These reliabilities are considered to be adequate for multivariate research on group differences.

The general child rearing attitudes section of the Master Scale consists of 91 items representing dominance (25 items), overprotection (25 items), rejection (26 items) and acceptance (31 items).[5] Items are scored so that high scores on a variable reflect greater acceptance of that type of child rearing attitude.

b. *Sociopsychological Attitudes.* This subscale consists of items selected from the California F-Scale (combined form 40-45) (Adorno et al., 1950) and the California Anti-Minority Scale (Adorno et al., 1950).

1. THE F-SCALE (21 ITEMS). This scale was designed to yield a measure of rigid adherence to conventional, middle-class values, and of acceptance of authority. It is used here since people who score high on this scale are described as being strongly inclined to dichotomize people into sharp polarities (e.g., the strong vs. the weak, the good vs. the bad, etc.), as part of a generalized characteristic of intolerance of ambiguity (Frenkel-Brunswik, 1949). From this scale 21 items were chosen on the basis of high discriminating power and applicability to the present sample. A reliability coefficient of .90 is reported for the F scale (Adorno et al., 1950).

2. THE ANTI-MINORITY SCALE (8 ITEMS). This is a measure of attitudes toward minority groups in general rather than for a specific group. Eight items were chosen for use in the Master Scale on the basis of discriminating power and applicability to the present *S*s. The wording on some of the items was changed slightly to make it more appropriate for use in eastern United States (this scale was developed on the West Coast). A .82 reliability is reported for the Anti-Minority scale (Adorno et al., 1950).

c. *Attitudes to Blindness.* This scale was developed specifically for use in the present study. Our need was for a brief, reliable instrument, reflecting attitudes toward blindness, and appropriate in format for use with parents of sighted and visually impaired adolescents. Initially we gathered information about already existing scales, used by other investigators to assess attitudes to blindness. Potentially relevant were the instruments developed by Rusalem (1950), Fitting

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[5] Of the 31 items in acceptance, 16 are obtained by reverse scoring items in dominance (5 items), overprotection (5 items) and rejection (6 items). This accounts for the 107 items obtained when the subscale totals are added.

(1954) and Steingisser (1954). One of these (Rusalem, 1950) was a 60-item checklist dealing with some alleged physical, sociological and psychological characteristics of the blind, which on closer inspection seemed to be removed from our major area of concern. Fitting's scale (1954) had been developed for use with visually disabled individuals in evaluating attitudes toward their own blindness. Some items from this scale seemed to be potentially adaptable to our needs. On the other hand Steingisser's (1954) 100-item attitude scale appeared to contain a sizeable number of items which could be used in our work. The scale was not taken over as is because it was too long for our present requirements and also because it seemed to us that the criteria used to establish logical validity for the items was not sufficiently rigorous and that basic data on reliability and item discrimination power was lacking.

Eventually we selected a total of 97 items, which seemed to us to be most relevant to the measurement of sighted people's attitudes to blindness from the Fitting and Steingisser scales. Sixty-nine of these were taken over without change, and the remaining 28 underwent relatively minor rewordings in the interests of simplification of readability.

In order to establish empirically that the constituent items did actually reflect an attitude to blindness, a judging procedure was necessary. All items were submitted to five workers with the blind (an administrator, rehabilitation worker, social worker, psychologist and nursery school teacher), who were asked to indicate whether acceptance of a given proposition reflected a positive or negative attitude to blindness by a sighted person. Provision was made so that the judge could say "undecided" if he felt that a directional judgment could not clearly be made. Appendix J presents the instructions to judge for this rating task. On this basis we were able to identify 56 items for which there was 100 per cent agreement with respect to relevance and direction.

These 56 items were next given in group administration to several adult education courses in psychology totalling to 101 *S*s. Consistent with the general format of the Master Scale four response options were provided as follows: strongly agree, mildly agree, mildly disagree, strongly disagree. For positive items these options were weighted one through four respectively, while the reverse was true for negative items. Thus the higher the total test score the more negative the attitude to blindness.

On the basis of the responses of this sample, an item analysis based on Flanagan's method (Flanagan, 1939) was carried out for all 56 items. Item-test correlations were found to range from +.08 to +.75. We then selected the 30 items with the highest discriminating power —item-test correlations ranging from +.44 to +.75 as our final scale. Twenty of these 30 items had been judged to reflect negative attitudes to blindness in their stated form, while the other ten reflected positive attitudes. Appendix K presents the final 30-item attitude scale, direction of keying and discriminating power (item-whole correlation) for each item as well as ordinal position in the final master scale.

Split half reliabilities were computed for the original 56-item scale as well as for the final 30-item scale. For the longer version there was an uncorrected reliability of .82, which jumped to .90 following application of the Spearman-Brown correction formula, while for the 30-item scale the comparable figures were .83 and .91 respectively.

The complete Master Scale, including the child-rearing, sociopsychological and blindness attitude items is presented in Appendix L.

2. *Situations Projective Test—A (SPT A)*

This scale is based on the same series of 12 stimulus figures used for the SPT-B described above. In this instance however we were concerned with the development of another measure of the parental attitudes of dominance, overprotection, rejection, and acceptance which, hopefully, would be somewhat less direct than those derived from the Master Scale. Definitions of these concepts as we are using them are the same as given above in connection with the Master Scale (See Appendix I). Once again we are dealing with an objectively scoreable projective type instrument specifically developed for purposes of the present research. Likewise we are dealing with an instrument which is admittedly in an earlier stage of development than would be desirable. That is to say, it can be justified only in terms of its face validity, rather than the ideally more desirable indicants of empirical validity.

The selection of response options reflecting the four content categories followed, in format, a procedure identical to that already described for the SPT-B. In this case, however, the options were written not in term of how the adolescent might perceive what is taking place, but rather in terms of how the parent might react to what is being depicted in the stimulus figure. (Specific instructions to judges for rating of the options are presented in Appendix M). The response items reflecting the four content categories for each stimulus card were selected on the basis of highest agreement among the five clinically trained judges. Of the total of 48 options chosen (four for each of 12 cards) 45 had 100 per cent agreement and three had 80 per cent agreement between judges. The final set of test options are presented in Appendix N.

For administration of the test the four options for each scene were typed on 3 x 5 cards, with options randomized in order of presentation. Each scene was presented to the parent together with the card containing the four options appropriate to it. The parent was asked to rank these options in the order of his preference for what he feels is going on in the scene. The specific instructions given to parents for this task are presented in Appendix O. Responses were scored so that ranks of one, two, three and four received weights of four, three, two and one respectively. The twelve scores under each variable were then summed. Thus high scores reflect high perception of a given variable.

Split half reliabilities, both uncorrected and corrected were computed for the mothers of each of the two experimental and the control group of *S*s, and separately for each of the four content categories. In general these reliabilities were not satisfactorily high, ranging from .04 to .77, with a median around .40. Three of the estimates actually fell short of statistical significance suggesting total unreliability for these measures. These were: dominance E_1 (.07), overprotection E_1 (.12), and dominance E_2 (.04). Appendix H presents these reliability figures for all analyses based on the SPT-A data.

C. *Measures of Parental Understanding*

The measurement of parental understanding in this investigation essentially follows the procedure outlined by Dymond (1949, 1950). She asked her *S*s to make a number of ratings on six traits. Among these ratings was a self-rating and a prediction regarding another *S*'s self-rating. The assumption was made that in order to predict accurately, *S* would have to take the role of the other in order to see him from his own point of view. "Empathy" was measured by taking the difference between the prediction made and the actual response of the other individual. The smaller the deviation between the prediction and the actual response of the other individual, the better was the empathic response considered to be.

In the present study, the magnitude of the difference between parental prediction for the child and the actual response of that child is the operational measure of parental understanding. Accuracy of parental prediction is determined from two sources: the Self-Concept Sort and the Situations Projective Test B (SPT-B). These are the same instruments designed to measure child adjustment.

1. *Predicted Self-Concept (Pred SC)*

This instrument is administered twice to the mother. Administration follows the general procedure as outlined for the children, except that instructions are directed to the prediction of the child's response. The second administration was initiated as a control measure and will be discussed under "Dummy" Sort.

In the predicted self-concept, the parent is instructed to rank the statements as she thinks her child would rank them. The exact instructions given to the parents for the performance of this task are presented in Appendix P. The summed difference between parent's rankings and the child's rankings for each individual item provides the basic discrepancy measure in the present study. This measure is computed exactly as the earlier described self-ideal discrepancy score for the child, substituting, in this case, parent's prediction for ideal self. It is assumed that the smaller the magnitude of this summed discrepancy score, the greater is the degree of parental understanding.

2. *Predicted Situations Projective Test B (Pred SPT-B)*

Administration follows the general procedure outlined for the sighted children, with the exception that instructions differ with respect to prediction. The parent is instructed to rank the options as she thinks her child would rank them.

Specific instructions utilized by parents in this task are given in Appendix Q. The discrepancy score yielded by this instrument is based upon the summed rank differences for all 12 situations between child response and parent prediction. Since there are four categories of perception (pity, overprotection, rejection, acceptance), four discrepancy scores are obtained, one for each of the categories. It is assumed that the smaller the magnitude of the discrepancy for any category the greater is the degree of parental understanding for that category.

Again, split half reliabilities were computed for each of the three samples, separately for each of the four categories of maternal prediction. The 12 corrected Spearman-Brown coefficients, in this instance are substantially higher than was the case for the comparable

SPT-A reliabilities. In this case the median figure is above .60, and only two individual reliabilities—overprotection E_1 (.08) and overprotection E_2 (.21)—fall short of significance. The actual reliability estimates are presented in Appendix H.

3. *The "Dummy" Sort*

This instrument consists of five of the ten blocks of items, randomly selected, making up the basic self-concept adjustment measure. In this case however the mother is asked to rank the statements as she believes the "average teenager" would rank them for himself. Appendix R[6] presents the instructions given to the parents for this task. The "dummy" sort was included in view of the following considerations.

Perhaps one of the knottiest, and as yet unresolved problems in the area of measurement of understanding, is that of "projection." It arises because an individual in seeking to predict the response of another person, may actually attribute his own feelings to that other person (Bender and Hastorf, 1950). Projection (Bender and Hastorf, 1953) or "assumed similarity" (Fiedler, 1951, 1953, 1954; Fiedler and Senior, 1952) has been operationally defined as the relationship between the *S*'s self rating and the ratings he attributes to others. Bender and Hastorf (1953) caution that one might actually be predicting for another person what one is oneself and yet be predicting accurately because of a similarity between himself and his associate. Thus, what might actually be projection could according to this view be misperceived as empathy or could actually be understanding. In an attempt to control for the variable of projection, Bender and Hastorf differentiated between "raw empathy" (the usual way in which empathy has been measured) and "refined empathy" (the discrepancy between projection and "raw empathy"). They readily admit, however, that their "refined empathy" score may be overly severe because of the arbitrary nature of the projection score. A deviation between a forecaster's prediction and his own response (projection) may be zero on an item where no actual projection exists. Gage and Cronbach (1955) make essentially the same point, i.e., in the process of converting "raw empathy" into "refined empathy," accuracy for real similarity between forecaster and predictee is cancelled. In defense of the use of the "raw empathy" score, it should be noted that Bender and Hastorf (1953) do find a certain degree of commonalty between "raw" and "refined" empathy scores, although they are of the opinion that the two scores are not necessarily measuring the same thing.

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[6] A series of appendices, including Appendix R, considered to be somewhat less central to the study do not appear in this volume. If wanted they may, however, be obtained by writing to the American Foundation for the Blind.

In a previous paper, Hastorf and Bender (1952) raise the question of how familiar the forecasters were with their predictees. It is possible that forecasters depend more upon their internal frames of reference when they are predicting for individuals with whom they are not too familiar. Relevant to this question are the findings of Norman and Leiding (1956) where the Bender and Hastorf technique of scoring empathy was used. Norman and Leiding indicate that projection is more of a problem in a mass empathy test (where prediction takes place for a general group of people) rather than when predictions are made for one particular person. In line with this reasoning then, since in the present investigation parents are predicting for their own children with whom they are presumably familiar, the problem of projection, if real, should be somewhat less in evidence.

A possible control in the present study would have been a self-sort on the parent herself, with a view toward making use of the "refined empathy" score. Such a procedure, however, would undoubtedly have raised complex additional problems which would have been detrimental to the study as a whole, i.e., increased administration time in an already lengthy procedure and with it a probable decrease in parental cooperation. A compromise in the form of the "dummy" sort was finally decided upon which would minimally increase administration time, would center parental attention in a direction away from themselves, and would provide some estimate of the extent to which parents could predict differentially for their own children vs. same age children in general.

The basic measure to be obtained from the "dummy" sort is a "dummy" adjustment score which is compared with an adjustment score derived from the predictions of the parents for their own child. Both adjustment scores are computed in the same way as the self-concept adjustment score based on the child's self sort. In the instance of the "dummy" adjustment score, however, the score is derived from five, rather than ten blocks of items. Since the best possible adjustment score in a single block is six, the best possible total adjustment score on the "dummy" sort would be 30, with the poorest being 75.

Table 1 presents in summary form a listing of the instruments used for the basic measurement of child adjustment, parental attitudes and parental understanding with the parents and children in the present study.

TABLE 1. Summary of Instruments

A) *Adjustment Indices*	1) *Self-Ideal Sort*
(Children)	a) Self-Ideal Discrepancy
	b) Adjustment Score
	2) *Teachers' Behavior Rating Scale*
	3) *Situations Projective Test-B*
	a) Perceived Pity
	b) Perceived Overprotection
	c) Perceived Rejection
	d) Perceived Acceptance
B) *Attitude Indices*	1) *Master Scale*
(Parents)	a) Child Rearing Attitudes
	1) Dominance
	2) Overprotection
	3) Rejection
	4) Acceptance
	b) Sociopsychological Attitudes
	1) "F" Scale
	2) Anti-Minority
	c) Attitudes to Blindness
	2) *Situations Projective Test-A*
	a) Dominance
	b) Overprotection
	c) Rejection
	d) Acceptance
C) *Understanding Indices*	1) *Predicted Self-Concept*
(Parents)	(1a) "Dummy" Sort Control)
	2) *Predicted Child Perceptions—SPT-B*
	a) Pity
	b) Overprotection
	c) Rejection
	d) Acceptance

SPECIFIC PREDICTIONS

Although the general predictive orientation of this research may by now be at least implicitly apparent from our consideration of earlier theoretical speculation and research evidence, we have delayed a specific detailing of predictions pending more thoroughgoing description of our instruments and assessment procedures.

Having now accomplished the latter objective, it should be possible at this point to spell out our expectations and beliefs more concretely.

A. *Adjustment*

Our review of the available evidence on adjustment to blindness adds up to a hazy summary. We have found no studies in which blind or visually disabled *S*s as a group have been reported to be better adjusted than a comparable sighted control group. On the other hand we have reviewed a fair number of studies in which ostensibly better adjustment is reported for sighted groups in comparison to the visually disabled. Too, there have been virtually as many investigations in which no differences between groups were demonstrable. In the great preponderance of all of the foregoing studies, the direction of the results aside, we have observed problems of methodology, design and instrumentation sufficient to render the actual findings suspect. Such a state of affairs does not add up to a neatly packaged set of predictions. We must therefore conclude that the question of the relative adjustment of visually disabled and sighted *S*s is an open one, and that our explorations in this direction should be cast in a fundamentally empirical context. This point of view should be appropriate both when comparing home-living visually disabled to home-living sighted controls, as well as when comparing home-living to residential visually disabled *S*s. In like manner it should be true for each of the measuring instruments utilized to assess adolescent adjustment. Within that basic context, it may be appropriate to comment, but perhaps only parenthetically, that the slight weight of evidence that may be adduced from earlier investigations, would point toward the expectation of poorer adjustment as we move from sighted controls to home-living visually disabled adolescents to residential visually disabled adolescents.

B. *Attitudes*

Primarily on the basis of the general research literature, with some modest support from the literature and theorizing in the area of visual disability, we believe it defensible to expect that positive parental attitudes should relate to indices of good adjustment in the child. Translated into more specific predictions we would propose the following:

1. High scores on parental acceptance and low scores on parental rejection, overprotection, and domination as measured by the PARI

should relate to the following indices of good adjustment in the child:

- a. Low self-ideal discrepancy as measured by the Self-Ideal Sort
- b. Low sum rank adjustment scores as measured by the Self-Ideal Sort
- c. High scores on the Teachers' Behavior Rating Scale
- d. High perceived acceptance, and low perceived pity, rejection and overprotection as measured by the children's form of the SPT-B.

2. High scores on parental acceptance and low scores on parental rejection, overprotection and domination as measured by the multiple choice objectively scored SPT-A should relate to the indices of good adjustment in the same manner as described above (1a-d).

Each of the foregoing sets of predictions is presumed to be applicable both to sighted as well as to either category of visually disabled group. There is, to our knowledge no evidence to warrant the expectation that there should be differential magnitudes of these relationships between groups; accordingly comparison across group will be undertaken on a strictly empirical basis.

3. Low parental scores on the Attitudes to Blindness Scale, the California "F" and the Anti-Minorities Scale (i.e., positive attitudes) should relate to the indices of good adjustment as specified in 1a-d above.

In this case the formulations have been derived primarily with respect to the visually disabled groups. We shall consider the question of differential manifestation of these relationships across groups to be basically empirical in nature.

C. *Understanding*

Once again the basic psychological literature offers some basis for the expectation that high parental understanding should be related to good adjustment in the child. Specifically it is proposed that:

1. High parental understanding as reflected in small discrepancies between child's self-concept rating and parents' prediction of child's self-concept rating should relate to:

- a. Low self-ideal discrepancy as measured by the Self-Ideal Sort
- b. Low sum rank adjustment scores as measured by the Self-Ideal Sort

c. High scores on the Teachers' Behavior Rating Scale

d. High perceived acceptance and low perceived pity, rejection, and overprotection as measured by the children's form of the SPT-B.

2. High parental understanding indicated by small discrepancies between children's SPT-B responses on perceived pity, overprotection, rejection and acceptance and parents' estimates of these same responses should relate to indices of good adjustment as specified in 1a-d above.

Once again the relationships that are proposed are viewed as generalized ones, which should be applicable to sighted as well as visually disabled adolescents; in fact the literature on the relationship between parent understanding and adjustment has not as yet been extended to the area of visual disability. Cross-group comparisons, either between the two types of visual disability groups, or between either of them and the sighted controls, should therefore again be taken as empirical in nature.

It may be well to emphasize once more, that the foregoing should be viewed as the prime target questions around which our study has been constructed. Formally, our statement of beliefs, expectations, and hypotheses ends at this point. However we are also aware that a study of this scope is potentially capable of providing substantial useful information which transcends the limits of its major guiding questions. It will become increasingly apparent that this research was set up to do exactly that. Accordingly it was expected that information bearing on other significant issues might emerge in the course of our many laborious analyses of data. From time to time we have suggested what some of these issues are—e.g. the effects of degree of disability on adjustment; differences between fathers and mothers in the relationships between attitudes and understanding on the one hand, and adjustment in the child on the other; differences between the visually disabled living at home and those living in a residential center; sex differences in the adjustment of the visually disabled; clusterings of tests and/or items which may differentiate one group from another, etc. Although we regard all such inquiry as basically empirical in nature, it is nevertheless our intent to provide all the useful and meaningful information about adjustment to visual disability and its determinants which can appropriately be identified from our data.

CHAPTER IV

Method

SUBJECTS

The *S*s for the present experiment were 167 adolescents in the 7th through 12th grades, and between the ages of thirteen and eighteen. All 167 mothers of these adolescents were seen independently. Wherever possible an effort was also made to see fathers as well; however we were able to complete testing only with 66 fathers. Collection of the data proceeded in two separate and distinct steps. In the first of these it was possible to complete an experimental group (E_1) of 71 visually disabled adolescents each of whom was attending a public educational day school facility, somewhere in the Syracuse, N. Y., Rochester, N. Y. and New York City vicinities. This group actually contained three subgroups differentiable on the basis of varying degree of visual disability. At the same time we also completed an otherwise comparable but sighted control group (C) drawn from the public education rolls of the Rochester area. In the second stage of data gathering an entirely new sample of 56[1] visually disabled adolescents (E_2) drawn from residential schools for the blind in Batavia, N. Y., Boston, Mass., Pittsburgh, Pa., and Columbus, Ohio was obtained.

This group included two identifiable subgroups also varying in terms of degree of visual disability. Mothers of all *S*s in each of these three groups were seen. The three groups were matched as closely as possible with respect to age, sex, intelligence, socioeconomic level and educational status. However, because of some of the unusual difficulties involved in procurement of *S*s, particularly the geographic span of the investigation (i.e., although all 167 *S*s were attending schools in the four states indicated above, when tested, parental homes were scattered across these four states, as well as in the states of New Hampshire, Maine and Rhode Island), the goal of close matching on all of these variables was not, as we shall see, fully achieved.

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[1] The number of visually disabled adolescents actually seen for complete or partial testing was at least 145. In addition to the total of 127 who comprised our E_1 and E_2 groups six *S*s were used in the pilot testing of one or more instruments, ten were tested completely but were not used in the final analyses because it proved impossible for reasons of time, cooperation or geography to obtain parent data, and two could not be included because testing with them was not completed due to interruptions.

A series of necessary conditions were set up beforehand for the inclusion of *S*s in *any one* of our three basic groups. These included:

1. An expressed willingness of the *S*'s mother, or mother surrogate to serve as an *S* in the experiment herself.
2. Adequate command of the English language by the parents
3. Minimal IQ of 80[2].
4. Age range between thirteen and eighteen.
5. Grade range between seven and twelve.

Additional restrictive criteria were also utilized for inclusion of *S*s in our two experimental groups. In the case of home living (E_1) group, the following minimum restrictions were utilized:

1. Visual acuity of 20/70 corrected vision or worse on the better eye. Visual disability at this point or beyond has to be of sufficient magnitude to have warranted assignment to a special educational facility for visually disabled students.
2. Visual disability must be either congenital in nature or established before school age.
3. No functional disability other than the visual disability should be present.
4. The *S* must not have spent more than three years in a residential setting. Even if he had spent less than three years in such a setting, he must have been living in the parental home for at least three years prior to the present experiment.
5. The *S* must be in current attendance in a public education day school setting.

The larger experimental (E_1) group, for purposes of some of the initial analyses, was broken down into three constituent subgroups differing with respect to degree of visual disability. These groups are:

1. Totally blind—Functional vision is entirely lacking. Medical

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[2] Two *S*s were later found to have IQ's of 73; these are included.

records specify visual acuities to be "total blindness," "nil," or "light perception only" (N=12).

2. Legally blind—Visual acuities in this group ranged from no better than 20/200[3] to no worse than 20/400 in the better eye after correction (N=28).
3. Partially sighted—Visual acuities ranged from no better than 20/70 to 20/100 in the better eye after correction (N=31).[4]

All of the visual diagnoses had been made by school or by private ophthalmologists, and all of the diagnostic information was obtained from school records. Appendix S presents in detail the visual diagnoses for the *S*s in this group.

By definition, the criteria for inclusion of *S*s in our residential sample of visually disabled *S*s (E_2) differed substantially from those used in selecting the initial experimental group. The criteria actually employed follow:

1. The *S* must have sufficient visual disability to have been certified in his home state as totally or legally blind.
2. The blindness must have been congenital in nature or have been established before school age.
3. The *S* must have no functional disability other than the visual one.
4. The *S* must have lived in a residential school for the blind for a period of at least three years prior to the experiment, except for normal vacation periods which may have been spent at home.

Once again the total residential group may be subdivided into two subgroups, the totally blind (N=30) and the legally blind (N=26). The definitional basis for assigning *S*s to one or the other of these two subgroups is exactly as specified above for our E_1 group. Visual diagnoses were again made by school or private ophthalmologists, within two years prior to the study, and were obtained from school records. A more precise breakdown of actual visual diagnoses of the members of the E_2 group is also presented in Appendix S.

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[3] Two *S*s in this group were subsequently found to have corrected visual acuities of 20/160 on the better eye.

[4] Two *S*s in this group had corrected visual acuities of 20/50; these disabilities were nevertheless of sufficient magnitude to have warranted special class assignment.

The control group was matched as closely as possible to the experimental groups in age, grade placement, intelligence and socioeconomic status. It was also limited by the same conditions of age and intelligence as were utilized for the experimental group. None of these youngsters suffered any physical disability of sufficient magnitude to warrant assignment to a special educational facility.

DESCRIPTIVE DATA

Intelligence test scores were taken wherever possible from school records. In several instances, where no intelligence rating was available, a rough estimate of IQ was derived on the basis of Stanford-Binet Vocabulary (Terman and Merrill, 1937). The Index of Status Characteristics (ISC) (Warner, Meeker and Eells, 1949) was used as a basis for estimating the socioeconomic level of the family. These ratings, based on the occupation of the main wage earner, source of income, type of dwelling and dwelling area were made at the time the home was visited. The scale yields a potential range of socioeconomic status scores from 12 (high) to 84 (low).

The means and standard deviations for the selection variables of age, grade, I.Q., and ISC, for both experimental groups and the control group are presented in Table 2. The *t* ratios testing the significance of differences between group means for each of the selection variables are summarized in Table 3. It is quite apparent from the results presented in this table that we have fallen short, in several important respects, of our goal of approximate matching of groups on these basic selection variables. Our order of procedure was to attempt first to match the E_1 and C groups, and upon that base to build the best possible matching approximation, within the very real limits which we faced in constituting our E_2 (residential) sample. Our only miss in the initial matching procedure was with respect to socioeconomic status, with our E_1 group having slight but significantly lower SES status than did the controls. By virtue of this fact matching our E_2 group to both of the original groups was doomed to failure. As things worked out, the E_2 group was comparable in ISC scores to the controls, and thus significantly higher in SES than was the E_1 group. Our second "failure" variable is that of grade placement, where both the E_1 and C groups prove to be significantly higher than are the E_2s. Since, however, the ages of the

TABLE 2. Descriptive Age, Grade, I.Q. and ISC Data

Variable	Statistic	E_1 (N = 71)	C (N = 40)	E_2 (N = 56)
Age (mos.)	$\bar{X}$	186.28	188.20	182.75
	σ	18.26	16.35	18.10
Grade	$\bar{X}$	9.66	9.60	8.45
	σ	1.67	1.35	1.35
I.Q.	$\bar{X}$	104.35	104.62	106.80*
	σ	13.18	14.89	15.38
ISC (SES)	$\bar{X}$	55.37	50.48	48.48
	σ	11.87	11.52	13.33

* On this measure, however E_2 males ($\bar{X}$ = 111.07) were significantly higher than E_2 females ($\bar{X}$ = 102.22), $t = 2.20$, $p = .05$.

TABLE 3. *t* ratios Comparing Groups on Four Selection Variables

Variable	E_1 *vs.* C	E_2 *vs.* C	E_1 *vs.* E_2
Age (mos.)	0.57	1.47	1.08
Grade	0.29	4.10**	4.48**
I.Q.	0.10	0.68	1.97
ISC (SES)	2.13*	0.74	3.05**

*Significant at $p = .05$ or beyond.
**Significant at $p = .01$ or beyond.

three groups are roughly comparable, the significant difference in grade levels suggests that the general age in grade for residential students is higher than it is for public school students. Such an interpretation would be consistent with the findings of other investigators (Frampton and Rowell, 1940; Frampton and Gall, 1955). It is quite possible that had the residential group been matched to the two original very closely matched E_1 and C groups with respect to grade, the age matching might well have disappeared. In sum we are suggesting that the characteristics of the populations are such as to include a possible element of mutual exclusiveness in trying to match visually disabled public day school and residential school *S*s simultaneously on age and grade variables.

A final control variable which may be noted is that of sex composition of the three groups. Table 4 indicates the number of male and female *S*s in the major groups. A chi square test indicates that there are no significant or near significant differences in sex distribution for the three groups.

TABLE 4. Distribution of Males and Females in Subject Groups

	E_1	C	E_2	Total
Male	40	23	29	92
Female	31	17	27	75
Total	71	40	56	167

PROCEDURES IN DATA COLLECTION

Procedures varied somewhat from the first to the second collection of data, and, in fact, even within the initial collection of data, depending upon whether the research team was operating locally or in a geographically distant area.

For the E_1 and C groups lists of names of potential *S*s, with pertinent information were provided by the local school authorities. Our basic criteria for inclusion of *S*s in *any* of the subject groups were applied to these lists and those youngsters who did not meet these basic criteria were dropped from further consideration. An attempt was made first to procure the visually disabled *S*s and to keep a control group matched as closely as possible on a "running" basis, since presumably there is a greater latitude in selecting the latter.

In the upstate New York area parents of *S*s tentatively chosen for inclusion in the study were contacted by phone in order to try to enlist participation in the project. In the several instances where the family had no phone, direct contact was made at the home. The parents were told that the purpose of the study was to find out about the ideas and the opinions of the parents and their teen-age children. It was only after all testing with the parent had been completed that the investigators' more specific interest in the area of visual disability was disclosed.

The procedure used in the New York City area was somewhat different in that the telephone call to the parent was preceded by a letter written by the experimenters (*E*s) and sent in the name of the school principal to the parent. This letter, a copy of which is presented in Appendix T,[5] explained the broad purposes of the experiment and requested the parent's cooperation. It was included on the assumption that this type of preparatory information might increase the likelihood of parent participation. In view of the geographical distance and time pressures such maximization of cooperation was essential. In all, for the combined E_1 and C groups 119 mothers were contacted and asked to participate in the study; 111 of these agreed to participate and did so, while eight refused.

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[5] Available from the American Foundation for the Blind. (See footnote 6, p. 69.)

Our procurement of *S*s for the E_2 group began with a preliminary visit by one experimenter (F. B.) to each of the four cooperating residential schools. During this visit, lists of students from the 7th through the 12th grade were provided, and on the basis of available school records, a smaller list of potentially useable *S*s, who met the inclusion criteria and who lived within reasonable travel distance of the school, was compiled. Reasonable travel distance was interpreted to extend up to several hundred miles in instances where it was found that three or more families were located fairly close to each other in such a geographically removed area.

In the interim between this initial visit and the time that *E* returned to the school to start the testing, a letter was sent to the parents from an administrative officer of the school. This letter was comparable in content and format to the ones sent to the parents of our New York City *S*s. While the *E* was actually at the school, a telephone call was made to the parental home and an appointment was made to see the mother. Out of a total of 68 mothers so contacted, 56 eventually served as *S*s in the study. Eight other mothers agreed to be seen but had to be dropped because a mutually satisfactory time could not be arranged within the rigorous confines of the *E*'s schedule. Four mothers refused to participate in the study.

TESTING PROCEDURES

A. *Children*

The children were seen for testing in their respective schools by one of the investigators in two individual sessions, each at least 45 minutes in length, separated by an interval of from several hours to one week. In almost all instances there was at least a one-day interval between the two testing sessions. An effort was made to schedule these sessions so that they did not interfere with the normal routine of the school day. The order of administration of the instruments was as follows:

1. *First Session*

a. A ten-minute period used to establish rapport with the *S* to whatever extent possible in this limited period of time. By and large the *E*s felt that the amount of rapport established was adequate for the purposes of the study.

b. *Self Sort.* The *E* read the items to all *S*s, block by block. The control group had a copy of the statements in hand which they could read while the *E* read them. The *E* reread the statements as often as the *S* requested them to be read and always read each block twice to begin with. The *E* recorded the responses of all *S*s.

c. *Auditory Apperception Test* (See footnote 1, p. 52).

2. *Second Session*

a. *Situations Projective Test—B.* The *E* read the objective description of the scene and the response options to all *S*s. Control *S*s had the scenes and the response options before them as the *E* read. The responses of all *S*s were recorded by the *E*.

b. *Ideal Sort.* The administration of the ideal sort was identical to that of the self sort but with the different instructions being read to the *S*.

c. *Teachers' Behavior Rating Scale.* This instrument was given the teachers during the time that the *E* was at the school seeing the children. Distribution was effected in some cases by the *E*s and in others by school principals or other administrators.[6] Wherever possible the rating scales were given to the two teachers having the most contact with the child. In some instances, especially in some of the special classes from which E_1 *S*s were taken, only one teacher was felt to have had a close enough relationship with the child to warrant his being used as a rater. In 135 of the 167 instances two ratings were completed. When completed, the ratings were either picked up directly by the *E* in local area schools, or returned by mail in the case of geographically distant institutions.

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[6] In the original collection of data with the E_1 and C samples, no frame of reference was provided for these ratings. Subsequently it was decided that this was not a satisfactory procedure, and that the ratings would have been more meaningful if they had been made in terms of the frame of reference of the peer group. Accordingly, when these data were collected for our residential sample, the teacher was specifically instructed to make his ratings using the children in his own school (i.e., a residential school for the blind) as his frame of reference. This change, which was the *only* change either in instruments or instructions from the first to the second administration is considered to have been an important one. Its implications will be discussed more fully later.

B. *Parents*

All parents were tested individually in home visits by one of the investigators. In each instance testing was completed in a single session, which for most *S*s ranged between one and one half and two and one half hours. Occasionally the testing session required considerably more time. Where both parents had expressed a willingness to participate in the study, they were given the tests at the same time, but physically independent of each other. The *E* remained in the presence of the mother, or if both parents were taking the test, in continuing contact with each throughout the testing session. After a brief rapport period testing proceeded as follows:

1. *Predicted Self Sort.* Parents were instructed to rank the self-sort items as they believed their own child would do it.

2. *Predicted SPT-B.* Parents were asked to rank the response options, again as they felt their own child would rank them.

3. *Master Scale.* This was self-administered for all parents. The *E* remained present to answer questions, but in all such instances remained neutral and gave as objective as possible answers in seeking to clarify wordings or meanings which may not have been entirely clear to the respondent.

4. *Situations Projective Test-A.* This test was also self-administering for the parents, who read the option cards and recorded their own responses.

5. *Dummy Sort.* These items were handled exactly as the predicted self sort, except that the parent responded in terms of the anticipated frame of reference of the average teen-ager.

Only after all of this testing had been completed did the *E* provide information or answer questions about the study. Usually the parents own level of interest and curiosity was the guiding determinant of the extent of the briefing. These post-test sessions ranged from brief and perfunctory interchanges, to several rather lengthy and interested discussions. In such discussions the *E*s indicated the interest of the research team in problems of adjustment to visual disability, emphasizing however that we were concerned with group phenomena, rather than the adjustment of any specific child.

CHAPTER V

Results

For the most part analyses of the data were based on parametric small sample statistics and correlational approaches. For instance where we wished to compare groups on a given variable, Fisher's *t* test was used to assess the significance of the difference between means. When our concern was with the relationship between two variables within a given group, Pearson product moment correlations (*r*s) were used. When we wished to test the significance of the difference between groups for a given correlation or set of correlations, *z* transformations were utilized. Throughout, for the basic generalizations to be derived from this study, we have adopted the .05 confidence level as our criterion for statistical significance. However, we shall feel free to comment on findings which approached, but did not reach this level of significance, considering their possible implications for further work.

We have focused primarily on 36 basic variables including selection variables, indices of adjustment, measures of parental attitude and of parental understanding. Virtually all of the analyses emerging from this research derive from these 36 measures. Test scores for all *S*s on these variables were punched on to IBM cards, and these were processed by an IBM "650" electronic computer. This procedure provided means, sigmas, variances and a 36 x 36 correlation matrix for each of the two experimental groups (E_1 and E_2) and for the control group (C), in addition to separate but comparable data for the various subgroups comprising the major experimental groups. Similar data based upon fathers' responses rather than mothers' were also derived for our E_1 and C groups by the same basic processes. Additionally a substantial number of analyses, particularly those involving tests of significance of differences between groups were done by hand on automatic calculators. Appendix U contains a legend identifying the 36 basic variables upon which our analyses focussed. Appendix V presents the means and sigmas for the two experimental groups and the control group, while Appendices W_1, W_2, and W_3 provide the complete 36 x 36 correlation matrices for the total E_1, C, and E_2 groups. The separate correlation matrices for the component subgroups are not presented individually since the bulk of the z transformation analyses indicated that the number of significant difference in correlations between such groups could be accounted for by chance factors. Large segments of subgroup data may be found in the earlier reports by Underberg (1958), Verrillo (1958) and Benham (1960). Even though we shall be excerpting pertinent portions of Appendices W_1, W_2, and W_3 in the text of this chapter, it is our view that the more detailed appendicized tabular materials may constitute a useful basis for comparison to be used by future investigators; hence they are included.

The substantive findings of our investigation will be presented in six major sections. We shall first be concerned with the data bearing on the adjustment indices. Next we will focus on the results derived from the attitude measures, and the relationships between measures of attitude and those of adjustment. This will be followed by a comparable consideration of the data on parental understanding and its relationship to adjustment. Following this some attention will be given to relationships between measures of understanding and measures of attitudes. The next section will summarize the fathers' data, and finally we shall devote some attention to what might loosely be described as miscellaneous findings.

A. ADJUSTMENT

1. *Relationships Among Adjustment Measures*

Referring to Table 1 (p. 71) we see that seven separate indices of "adjustment" were derived from the assessment techniques used in the present study. Three of these, the self-ideal discrepancy, the self-concept adjustment score, and the teachers' rating were quite basic. The other four, perceived pity, overprotection, rejection, and acceptance, each derived from the SPT-B and introduced specifically for the present study, are viewed as at least partially deficient with respect to adequate empirical validity.

We were first interested in determining the extent to which these measures did in fact appear to be reflecting some common variable. Tables 5, 6, and 7 summarize the intercorrelations among these seven measures for the E_1, C, and E_2 groups respectively. These data are presented for the combined total groups only, since it is clear from

TABLE 5. Intercorrelations Among Adjustment Measures For E_1 Group (N=71)

	SC Adj.	Discr.	T.R.	SPT-B P	 O	 R	 A
SC Adj.		95[a]	−10	12	14	34[a]	−47[a]
Discr.			−03	11	14	30[a]	−42[a]
T.R.				−15	09	−03	06
SPT-B(P)					−14	−19	−34[a]
SPT-B(O)						−23[b]	−41[a]
SPT-B(R)							−58[a]
SPT-B(A)							

[a] Significant at *p* .01 or beyond.
[b] Significant at *p* .05 or beyond.

TABLE 6. Intercorrelations Among Adjustment Measures For C Group (N=40)

	SC Adj.	Discr.	T.R.	SPT-B P	 O	 R	 A
SC Adj.		93[a]	−37[b]	25	−01	38[b]	−45[a]
Discr.			−33[b]	28	02	32[b]	−43[a]
T.R.				−45[a]	−03	05	28
SPT-B(P)					−02	−26	−33[b]
SPT-B(O)						−20	−41[a]
SPT-B(R)							−60[a]
SPT-B(A)							

[a] Significant at *p* .01 or beyond.
[b] Significant at *p* .05 or beyond.

TABLE 7. Intercorrelations Among Adjustment Measures For E_2 Group (N=56)

	SC Adj.	Discr.	T.R.	SPT-B P.[x]	 O[x]	 R	 A
SC Adj.		94[a]	−40[a]	12	13	25	−37[a]
Discr.			−34[a]	15	05	26[b]	−35[a]
T.R.				01	−04	−15	15
SPT-B(P)[x]					−12	−18	−37[a]
SPT-B(O)[x]						−19	−38[a]
SPT-B(R)							−63[a]
SPT-B(A)							

[a] Significant at *p* .01 or beyond.
[b] Significant at *p* .05 or beyond.
[x] Unreliable measure.

the z transformation comparisons of correlations for subgroups that differences which were present among subgroups may readily be attributed to chance.

It can be seen that the adjustment indices vary sharply in the degree to which they intercorrelate with each other. The two self-concept indices are highly intercorrelated for all three groups, and, as might be anticipated, therefore correlate similarly with all other measures. For the C and E_2 groups these self-concept measures relate significantly to the teachers' ratings measure, but this is not true for the E_1 group. Of the SPT-B measures, pity and overprotection do not seem to relate consistently to the other measures with the possible exception of acceptance; in part this may be attributed to the relative reliability weaknesses of some of the SPT-B Scales. On the other hand the rejection and acceptance measures relate significantly to each other throughout, and both correlate modestly with the self-concept measures. In fact the SPT-B acceptance measure appears to be substantially related to all other adjustment indices, except for teachers' ratings, in all three groups.

2. *Subgroup Differences in Adjustment Within The Experimental Groups*

In order to determine whether it would be possible to pool subgroups within each of the experimental groups for purposes of subsequent comparisons, a series of t tests were performed testing the significance of the differences among subgroup means on our basic adjustment measures. These tests were done separately for the E_1 and E_2 subgroups. Table 8 presents the means and sigmas for the E_1 and E_2

TABLE 8. Means and Sigmas for Adjustment Measures in Degree of Disability Subgroups of E_1 and E_2

	E_1 Subgroups						E_2 Subgroups			
Adj. Measure	Tot. Blind N = 12		Leg. Blind N = 28		Part Sighted N = 31		Tot. Blind N = 30		Leg. Blind N = 26	
	M	SD	M	SD	M	SD	M	SD	M	SD
SC Adj.	75.92	13.03	79.39	16.36	80.44	13.01	82.57	16.60	85.38	17.73
Discr.	65.17	21.96	72.54	27.43	72.13	20.96	74.53	26.71	78.08	27.65
T.R.	47.75	11.56	51.89	6.22	49.03	8.00	48.10	8.10	49.08	7.91
SPT-B(P)	25.33	4.46	25.21	3.94	26.00	3.89	25.17	3.69	24.65	3.24
SPT-B(O)	34.33	5.77	33.86	4.04	33.10	4.40	34.90	3.40	35.23	3.78
SPT-B(R)	27.67	5.74	28.11	5.39	27.06	5.53	29.23	5.00	29.23	4.95
SPT-B(A)	32.67	6.96	32.82	6.62	34.16	6.62	30.70	6.14	30.88	5.38

subgroups, while Table 9 presents all combinations of *t*s testing the significance of the mean differences for subgroups within the larger E_1 and E_2 groups.

TABLE 9. *t* Ratios Comparing E_1 and E_2 Degree of Disability Subgroups on Measures of Adjustment

Adj. Measure	E_1 Subgroups			E_2 Subgroups
	Total *vs.* Legal (df = 38)	Total *vs.* Part Sight (df = 41)	Legal *vs.* Part Sight (df = 57)	Total *vs.* Legal (df = 54)
SC Adj.	0.65*	1.10	0.36	0.62
Discr.	0.80	0.97	0.06	0.49
T.R.	1.46	0.41	1.50	0.84
SPT-B(P)[x]	0.07	0.50	0.80	0.56
SPT-B(O)[x]	0.31	0.75	0.64	0.35
SPT-B(R)	0.21	0.32	0.67	0.00
SPT-B(A)	0.04	0.75	0.82	0.12

* All tabled *t*s fail to reach significance at p .05 or beyond.

[x] Unreliable measure for E_2.

Since, of the 28 comparisons of subgroups, there are no significant differences between means, we are led to conclude that the subgroups do not differ with respect to adjustment to visual disability, and may approximately be considered to comprise unitary total groups for purposes of subsequent comparisons. Particularly on the self-concept measures inspection of the group means for E_1 showed a linear progression, within the disability groups, such that the greater the degree of disability, the better the adjustment. On the basis of this observation the 71 *S*s in the E_1 group were rank ordered according to visual acuity as stated in medical record. This degree of disability index was correlated with SC Adj., Discr. and T.R. for the E_1 groups yielding values of $+.14$, $+.17$ and $+.01$ respectively. For the two self-concept indices within the E_1 group, greater visual disability tends to correlate with better adjustment, but not significantly so. When the C and E_1 groups are combined a low but significant correlation, $r=19$ ($p=.05$), is found between degree of visual impairment and goodness of adjustment as measured by the self-ideal discrepancy.

3. *Sex Differences on Adjustment Measures*

In addition to our concern with possible differences in adjustment among groups varying with respect to degree of physical disability, we were also interested in determining whether there were group differences in adjustment between the sexes within each of the larger experimental groups. Table 10 present the means and sigmas for the adjustment measures by sex separately for each of the larger experimental groups, while Table 11 summarizes the *t* ratios testing the significance of the differences in these group means.

TABLE 10. Means and Sigmas for Adjustment Measures for Males and Females

Adj. Measure	E_1				C				E_2			
	Male (N = 40)		Female (N = 31)		Male (N = 23)		Female (N = 17)		Male (N = 29)		Female (N = 27)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
SC Adj.	78.93	12.92	80.10	16.03	83.43	12.43	82.06	14.87	77.59	13.06	90.63	18.40
Discr.	70.95	21.90	71.32	25.98	78.65	18.79	79.65	25.07	68.17	21.45	84.78	29.90
T.R.	48.52	8.70	51.77	6.91	51.61	6.11	52.18	6.43	48.93	8.68	48.93	7.35
SPT-B(P)	26.30	3.23	24.65	4.61	23.43	3.80	24.47	3.59	25.07	3.69	24.78	3.26
SPT-B(O)	33.63	3.85	33.58	5.19	33.26	3.99	32.47	3.87	34.28	3.24	35.89	3.74
SPT-B(R)	27.18	4.10	28.10	6.81	30.78	5.67	28.53	5.79	28.86	4.90	29.63	5.03
SPT-B(A)	32.90	5.80	34.00	6.71	32.09	5.16	34.53	7.44	31.79	5.47	29.70	5.94

TABLE 11. *t* Ratios Comparing Males and Females on Measures of Adjustment

Adj. Measure	E_1 (df = 69)	C (df = 38)	E_2 (df = 54)
SC Adj.	0.33	0.31	3.10[a]
Discr.	0.06	0.14	2.42[a]
T.R.	1.64	0.14	0.00
SPT-B(P)	1.74	0.86	0.31
SPT-B(O)	0.05	0.61	1.75
SPT-B(R)	0.69	1.20	0.60
SPT-B(A)	0.73	1.19	1.38

[a] Significant at *p* .01 or beyond.

While there are no significant differences between sexes for any of the adjustment measures in the E_1 or C groups, there is some evidence to suggest that reliable sex differences are present in the E_2 group. For both self-concept measures the males appear to be significantly better adjusted than the females. We therefore considered it desirable to deal separately with the results for male and female *S*s in the E_2 group insofar as the "significant difference" adjustment measures are concerned.

4. *Total Group Differences in Adjustment*

While the foregoing analyses for differences between degree of disability and sex subgroups were of considerable interest, our most basic concern was in the comparison of our home-living day school visually disabled *S*s (E_1), controls (C), and residential visually disabled *S*s (E_2), on the adjustment measures. In the interests of tabular uniformity the undifferentiated total groups will be presented first. This will be followed by the appropriate differentiated comparisons in instances where there were significant within group sex differences. Accordingly Table 12 presents means and sigmas for the three total groups, while Table 13 summarizes the *t* ratios testing the significance of the differences among these group means.

TABLE 12. Means and Sigmas for Adjustment Measures for the Total Groups

Adj. Measure	E_1 (N = 71)		C (N = 40)		E_2 (N = 56)	
	M	SD	M	SD	M	SD
SC Adj.	79.44	14.45	82.85	13.61	83.88	16.88
Discr.	71.11	23.88	79.08	21.76	76.18	26.72
T.R.	49.94	8.16	52.00	6.43	48.93	7.92
SPT-B(P)	25.58	3.99	23.88	3.74	24.93	3.43
SPT-B(O)	33.61	4.50	32.92	3.96	35.05	3.52
SPT-B(R)	27.58	5.49	29.82	5.82	29.23	4.89
SPT-B(A)	33.38	6.24	33.12	6.36	30.79	5.70

Since there were significant differences between the males and females in the E_2 group on the two self-concept measures of adjustment (see Table 11), *t*s were computed comparing E_2 males and females separately to the total E_1 and C groups. These *t*s are presented in Table 14.

On the bases of the *t* ratios presented in Tables 13 and 14 we may observe the following pattern of significant differences among groups on the adjustment measures: E_1 *S*s perceive significantly more pity than do the *S*s from the C group (this finding, however, may be contaminated by the differential stimulus pull deriving from the visual

TABLE 13. *t* Ratios Comparing Total Groups on Measures of Adjustment

Adj. Measure	E_1 *vs.* C (df = 109)	E_2 *vs.* C (df = 94)	E_1 *vs.* E_2 (df = 125)
SC Adj.	1.21	0.31*	1.58*
Discr.	1.73	0.55*	1.12*
T.R.	1.36	1.97	0.70
SPT-B(P)	2.07[b]	1.39	0.96
SPT-B(O)	0.80	2.70[a]	1.96
SPT-B(R)	2.00[b]	0.53	1.75
SPT-B(A)	0.21	1.84	2.40[b]

*These *t*s are presented for tabular completeness only. Since there are significant E_2 sex subgroup differences on this measure, the appropriate *t*s by subgroup are presented in Table 14.

[a] Significant at *p* .01 or beyond.

[b] Significant at *p* .05 or beyond.

TABLE 14. *t* Ratios Comparing E_2 Sex Subgroups with E_1 and C Total Groups for Two Adjustment Measures

Adj. Measure	Males E_2		Females E_2	
	vs. E_1 (df = 98)	*vs.* C (df = 67)	*vs.* E_1 (df = 96)	*vs.* C (df = 65)
SC Adj.	0.59	1.61	3.25[a]	1.98
Discr.	0.57	2.06[b]	2.42[b]	0.97

[a] Significant at *p* .01 or beyond.

[b] Significant at *p* .05 or beyond.

and verbal presentations (see footnote 4, p. 62); E_1 *S*s perceive significantly less rejection than the Cs; E_2 *S*s perceive significantly more acceptance than do the E_1s and more overprotection than the Cs. Additionally, on the two self-concept measures E_2 males appear to be better adjusted than E_2 females. The E_2 females are significantly more maladjusted on both of these measures than is the E_1 group, and the E_2 males are significantly better adjusted than the total C group on the self-concept discrepancy measure. At least with respect to the self-concept measure an ordering of the groups going from good to poor adjustment would be as follows: E_2 males, E_1, C, E_2 females.

5. *Item Analyses*

Notwithstanding the fact that there are relatively few significant differences among groups on the seven criterion measures of adjustment, it was conceivable to us that there might be a pattern or cluster responses which would consistently differentiate visually disabled from sighted *S*s on an individual item basis, at the same time having the net effect of cancelling each other out in terms of their contribution to the total adjustment scores. Some precedent for this type of finding has been reported in a similar study by Jervis (1959). Of our several adjustment indices, it seemed that the self-concept instrument with its relatively sizable pool of constituent items would be the best single measure on which to explore this possibility. We were aware of the fact that the procedure of empirical searching for individual item discriminators might well involve an element of capitalization on chance. However, by first comparing the E_1 and C groups and then using the E_2 vs. C comparison as a validity generalization test, we felt that adequate protection against such capitalization would be provided. Accordingly we posed the following as our initial question: are there significant individual item differences between the E_1 and C groups on the self-concept instrument? The item analyses were run separately for three measures: child's self-concept scores, child's self-ideal discrepancy and mothers' predicted self-concept. Although the latter measure comes primarily from the area of parental understanding, it will, because of the nature of our findings, be considered at this point. Each of the item analyses was first run for the total E_1 and C groups, as well as for all combinations of subgroups. Table 15 summarizes the number of significant item differentiators (out of 60 items comprising the self-concept instrument) for each of these comparisons.

TABLE 15. Number of Significant Individual Item Self-Concept Differentiators in Group and Subgroup Comparisons for E_1 and C

Measures	Total E *vs.* C	Tot. Bl. *vs.* C	Leg. Bl. *vs.* C	Part. S. *vs.* C	Tot. Bl. *vs.* Leg. Bl.	Tot. Bl. *vs.* Part. S.	Leg. Bl. *vs.* Part. S.
Child's SC	2	2	0	1	4	1	4
SC-IS Discr	6	5	2	3	1	0	1
Mothers Pred SC	3	4	3	3	5	3	0

Of the 21 sets of 60-item comparisons, the largest single number of differentiators is six. Even if one were to assume item independence, six significant differences out of 60 items tested fails to exceed chance expectations (Sakoda, Cohen, and Beall, 1954). Accordingly, it seems very clear that it has not been possible to identify a cluster of adjustment relevant items which would differentiate the responses of visually disabled and those of sighted *S*s. We did not consider it appropriate to redo these analyses based on E_2 vs. C, since the possibility of cross validation or validity generalization would no longer have been available.

B. PARENTAL ATTITUDES

A total of eleven measures of parental attitudes was available to us for each of the samples (See Table 1, p. 71). Seven of these come from the Master Scale, including four child rearing scores, two sociopsychological attitudes, and the antiblindness index. The other four measures are derived from the SPT-A answered by parents for themselves.

1. *Relationships Among Attitude Measures*

Once again we wished to determine the extent of communality among our several attitude measures. Therefore, intercorrelational matrices were setup for the 11 basic measures of parent attitude. This was done separately for the degree of disability subgroups and sex subgroups for both the E_1 and E_2 samples. However *z* transformations made evident the fact that differences in correlations among these subgroups were entirely attributable to chance factors. For this reason, Tables 16, 17, and 18 present the intercorrelations among the attitude measures for the three larger pooled groups (E_1, C and E_2) respectively.

TABLE 16. Intercorrelations Among Attitude Measures for the E_1 group

	Master Scale							SPT-A			
	D	O	R	A	AM	F	AB	D	O	R	A
D		84[a]	61[a]	−78[a]	37[a]	72[a]	52[a]	18	20	07	−34[a]
O			51[a]	−79[a]	29[b]	66[a]	61[a]	08	27[b]	09	−33[a]
R				−59[a]	27[b]	58[a]	47[a]	28[b]	08	37[a]	−54[a]
A					−42[a]	−59[a]	−55[a]	−09	−13	−10	25[b]
AM						14	−08	−05	15	−11	−02
F							44[a]	13	13	15	−30[a]
AB								03	19	24[b]	−38[a]
D									−50[a]	03	−33[a]
O										−18	−21
R											−74[a]
A											

[a] Significant at *p* .01 or beyond.
[b] Significant at *p* .05 or beyond.

TABLE 17. Intercorrelations Among Attitude Measures for the C Group

	Master Scale							SPT-A			
	D	O	R	A	AM	F	AB	D^x	O^x	R	A
D		75^a	43^a	-80^a	72^a	85^a	42^a	17	−01	13	−29
O			50^a	-78^a	61^a	71^a	54^a	07	13	06	−29
R				-58^a	31^b	44^a	29	−15	−14	40^a	−22
A					-70^a	-81^a	-55^a	−09	05	−25	-33^b
AM						71^a	63^a	14	06	11	−30
F							49^a	06	01	08	−18
AB								15	−10	14	−24
D^x									−30	05	-43^a
O^x										-45^a	−01
R											-71^a
A											

[a] Significant at p .01 or beyond.
[b] Significant at p .05 or beyond.
[x] Unreliable measure.

TABLE 18. Intercorrelations Among Attitude Measures for E_2 Group

	Master Scale							SPT-A			
	D	O	R	A	AM	F	AB	D^x	O	R	A
D		70^a	64^a	-70^a	68^a	84^a	21	03	36^a	06	32^b
O			54^a	-83^a	56^a	68^a	55^a	00	50^a	21	-53^a
R				-71^a	50^a	66^a	33^b	−05	27^b	20	-33^b
A					-58^a	-73^a	-50^a	00	-45^a	-30^b	57^a
AM						77^a	23	−10	50^a	10	-37^a
F							26^b	02	48^a	−05	-30^b
AB								19	29^b	01	-32^b
D^x									42^a	-33^b	−01
O										09	-52^a
R											-74^a
A											

[a] Significant at p .01 or beyond.
[b] Significant at p .05 or beyond.
[x] Unreliable measure.

By and large we may say that the subscales of the Master Scale intercorrelated rather well with each other. Of the total of 63 such correlations for the three groups, only five fail to reach statistical significance; virtually all the correlations are in fact significant at p .01 or beyond. Only 10 of the 18 intercorrelations involving SPT-A variables are significant. A good number of these involve the acceptance scale; however the only steadily consistent and high correlation within the bloc of SPT-A measures for all three groups is the one between rejection and acceptance. With respect to the total of 84 cross-correlations between Master Scale and SPT-A measures, there is considerable variability for the three groups. In the control group for example there are virtually no significant *r*s. On the other hand for the E_2 group, both the overprotection and acceptance measures of the SPT-A correlate significantly with all Master Scale variables. For the E_1 group only the SPT acceptance measure correlates rather consistently with the Master Scale variables.

Between group differences in the magnitude of these correlations were examined by means of *z* transformations. In none of these comparisons did the number of significant cross-group differences exceed chance expectancy.

2. *Group Differences in Attitudes*

Our next concern was with the extent to which differences in attitudes were present when comparing the parents of the three total groups. Table 19 presents the means and sigmas for the 11 parent attitude measures, while Table 20 summarizes the *t* ratios testing the differences in means among these groups.[1]

TABLE 19. Means and Sigmas for Parent Attitude Measures for Total Groups

Att. Measure	E_1 (N = 71)		C (N = 40)		E_2 (N = 56)	
	M	SD	M	SD	M	SD
Master Scale						
D	70.18	12.54	70.15	13.58	68.11	13.27
O	64.61	15.29	61.85	14.58	59.30	12.14
R	69.87	11.82	71.50	12.06	66.36	10.17
A	85.27	12.43	88.02	12.64	88.68	10.73
AM	19.76	8.61	19.75	5.95	19.09	5.94
F	58.44	11.52	60.20	9.46	58.00	9.92
AB	54.59	13.26	56.18	10.40	49.80	11.04
SPT-A						
D	31.59	3.98	31.25	3.65	31.16	3.33
O	32.13	4.32	32.55	3.25	31.02	3.93
R	21.11	4.98	20.92	4.88	20.84	4.97
A	35.03	5.88	35.02	5.09	36.98	5.73

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[1] No significant subgroup differences were obtained; hence only the pooled total group data are presented.

TABLE 20. *t* ratios Comparing Total Groups on Measures of Parental Attitude

Att. Measure	E_1 *vs.* C (df = 109)	E_2 *vs.* C (df = 94)	E_1 *vs.* E_2 (df = 125)
Master Scale			
D	0.09	0.72	0.90
O	0.93	0.92	2.10[b]
R	0.77	2.20[b]	1.75
A	1.23	0.27	1.62
AM	0.00	0.52	0.49
F	0.94	1.06	0.22
AB	0.74	2.78[a]	2.15[b]
SPT-A			
D[x]	0.10	0.12	0.64
O[x]	0.58	1.97	1.48
R	0.23	0.08	0.30
A	0.00	1.68	1.86

[a] Significant at p .01 or beyond.
[b] Significant at p .05 or beyond.
[x] SPT-A (D) unreliable for C and E_2; SPT-A (O) unreliable for C.

While there are no significant differences between the attitudes of the E_1 and C parents, it is of some interest to note that the E_2 mothers verbalize more positive attitudes to blindness than do the mothers of either of the other groups. They also appear to be significantly less overprotective than the mothers of the E_1 group and significantly less rejecting than the control mothers. Since in addition to these significant findings, there are other directionally consistent ones approaching significance, the defensibility of viewing the obtained significant differences as due to factors other than chance, is strengthened. It appears then that E_2 mothers tend to verbalize somewhat more favorable attitudes than do those of the other groups.

3. *Relationship of Attitudes to Adjustment*

A major reason for including a variety of parental attitude measures in our investigation was to make possible a test of the relationship between measures of parent attitudes and those of adjustment in the child. A test of the significance of the differences between correlations for varying subgroups indicates that these did not exceed chance. Accordingly Tables 21, 22, and 23 summarize for the E_1, C, and E_2 groups respectively, the correlations between the 11 attitude and seven adjustment measures.

TABLE 21. Correlations Between Parental Attitude and Child Adjustment Measures for E_1 Group

Adj.	Master Scale							SPT-A			
Measures	D	O	R	A	AM	F	AB	D	O	R	A
SC Adj.	−02	01	07	01	−09	−03	12	13	−05	06	−14
Discr.	02	02	16	−03	−05	−03	18	13	−04	09	−17
T.R.	21	16	08	−19	19	19	−01	14	05	−23	05
SPT-B (P)	−14	−15	−07	15	−08	−06	07	−03	−02	04	08
SPT-B (O)	16	06	−04	−10	20	−03	−04	33[a]	−14	26[b]	08
SPT-B (R)	00	−01	09	08	−24[b]	−04	10	17	01	22	−35[a]
SPT-B (A)	−04	02	00	−07	12	10	−10	−36[a]	10	03	18

[a] Significant at p .01 or beyond.
[b] Significant at p .05 or beyond.

TABLE 22. Correlations Between Parental Attitude and Child Adjustment Measures for C Group

Adj.	Master Scale							SPT-A			
Measures	D	O	R	A	AM	F	AB	D[x]	O[x]	R	A
SC Adj.	−02	09	04	−06	32[b]	10	34[b]	05	−14	21	−20
Discr.	−12	02	−03	−02	18	02	30	−01	−12	20	−17
T.R.	−04	−15	−12	17	−21	−13	−23	−02	12	−21	12
SPT-B (P)	08	20	04	−26	21	15	20	00	31[b]	27	−12
SPT-B (O)	04	11	−23	13	−01	10	−07	32[b]	08	−31[b]	04
SPT-B (R)	09	06	29	−13	21	12	08	−10	−06	07	00
SPT-B (A)	−12	−22	16	18	−27	−21	−10	−11	16	02	01

[b] Significant at p .05 or beyond.
[x] Unreliable measures.

TABLE 23. Correlations Between Parental Attitude and Child Adjustment Measures for E_2 Group

Adj.	Master Scale							SPT-A			
Measures	D	O	R	A	AM	F	AB	D[x]	O	R	A
SC Adj.	19	20	17	−28[b]	13	29[b]	04	−03	20	−05	−07
Discr.	21	15	22	−26[b]	14	30[b]	−02	−11	−21	−05	−03
T.R.	−24	−19	−11	14	−19	−31[b]	−14	−06	01	06	−03
SPT-B (P)[x]	−02	−02	−07	06	02	03	−06	05	−04	−12	16
SPT-B (O)[x]	13	12	03	−11	−12	−05	01	24	−06	19	−27[b]
SPT-B (R)	19	23	13	−11	28[b]	29[b]	09	−23	37[a]	08	−19
SPT-B (A)	−23	−26[b]	−09	13	−18	−24	−25	08	−26[b]	−12	−24

[a] Significant at p .01 or beyond.
[b] Significant at p .05 or beyond.
[x] Unreliable measures.

By and large the correlations between parental attitude and child adjustment measures are consistently low for both the E_1 and C groups; in fact, there are only five significant correlations in each set of 77 which were run. These do not appear to follow a consistent pattern and may parsimoniously be attributed to chance variation. In the case of the E_2 group, however, there are 11 significant correlations in the matrix of 77, four of which involve F scale measures. High authoritarian attitudes in the parent appear to relate to poor adjustment as indicated by the self-concept adjustment measure, the self-ideal discrepancy score, low teachers' ratings and high perceived rejection. High antiminority scores relate similarly to the perceived rejection measures, while high Master Scale acceptance scores relate to good adjustment on both self-concept measures. High parental overprotection as reflected either by the Master Scale or the SPT-A relates to low perceived acceptance; high SPT-A overprotection also relates to high perceived rejection and low SPT-A acceptance relates to high perceived overprotection. Each of these 11 correlations is in the predicted direction (i.e. positive parental attitudes relating to indices of good adjustment); however the correlations even when significant are relatively low and hence do not account for a large amount of variance, predictively.

For the larger groups, differences in the relative magnitudes of these 77 attitude vs. adjustment correlations among the two experimental and the control groups were tested for significance by means of a series of z transformations. This was done separately for E_1 vs. C, E_2 vs. C and E_1 vs. E_2. Since the number of significant differences in each of these comparisons failed to exceed chance expectations, we are led to conclude that the degree of relationship between parent attitude variables and child adjustment variables does not differ across the several groups.

In view of the evidence recently presented (Zuckerman et al., 1958) indicating that maternal attitudes on the PARI may be related to mothers' education, a series of additional correlations was computed between mothers' education and the eleven measures of attitude, five measures of understanding, and seven measures of adjustment. Data on mothers' education had been collected but this variable had not been included in our original 36 x 36 matrices. We therefore computed separate one by 23 matrices for each of the three major groups between mothers' education and the adjustment, understanding, and attitude variables. These correlations are presented in Appendix X.[2] It is of some interest to note that the majority of the significant zero-order correlations between mothers' education and the other measures, occur with Master Scale measures. In accord with the Zuckerman et al. (1958) findings, 11 of the 12 correlations with the four PARI measures (covering three groups) are significant. Mothers' education was therefore partialled out of the correlations between the eleven attitude and seven adjustment measures. This procedure had virtually no effect on the relationship between attitude and adjustment for the E_1 and C groups; however in the case of E_2 group, eight of the eleven originally significant *r*s dropped out when mothers' education was partialled out.

It may also be of interest to note parenthetically that when point biserial *r*s were calculated for mothers' employment status (yes-no) and child adjustment, no significant relationships emerge for any of the groups.

C. PARENTAL UNDERSTANDING

For each of the three samples five measures of parental understanding were available (see Table 1, p. 71). The first of these was the discrepancy between child response and parent prediction of child response on the self-concept measure of the Self-Ideal Sort. The remaining four were all derived from the SPT-B; in these instances the discrepancies between the child's responses for perceived pity, overprotection, rejection, and acceptance and the mother's predictions of those same responses were used.

1. *Relationships Among Understanding Measures*

In order to determine the degree of overlap of our measures of understanding, a separate set of intercorrelations was computed for these five variables in each total sample. Actually these computations were done independently for subsamples as well; however differences among subsamples were sufficiently infrequent as to be explainable in terms of chance; hence we considered it justifiable to pool the data. Table 24 presents the intercorrelations among the understanding measures (i.e. the discrepancies between child's response and mother's prediction of child's response) for E_1, C, and E_2.

The intercorrelations among the understanding measures tend to be low, positive and significant in the case of the E_1 and E_2 groups,

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[2] Available from the American Foundation for the Blind. (See footnote 6, p. 69.)

TABLE 24. Intercorrelations Among Understanding Measures for E_1, C, and E_2 Groups

		Predicted SPT-B (Mother Child Discrep.)			
		P	O	R	A
E_1	Pred SC	43[a]	14	36[a]	10
	Pred SPT-B (P)		44[a]	29[b]	27[b]
	Pred SPT-B (O)			31[a]	32[a]
	Pred SPT-B (R)				45[a]
C	Pred SC	12	27	24	38[b]
	Pred SPT-B (P)		−01	−01	08
	Pred SPT-B (O)			−19	09
	Pred SPT-B (R)				44[a]
E_2	Pred SC	36[a]	16	17	43[a]
	Pred SPT-B (P)		31[a]	13	30[a]
	Pred SPT-B (O)			26[b]	25
	Pred SPT-B (R)				48[a]

[a] Significant at p .01 or beyond.
[b] Significant at p .05 or beyond.

but for the control groups, it is questionable that these relationships exceed chance. On the basis of z transformations, for example, it is evident that the interrelationships among understanding measures are significantly higher in the E_1 in comparison to the C group.

2. *Group Differences in Understanding*

We were also interested in determining the extent to which the parents of our subject groups differed with respect to understanding, as we have used the term in this study. Table 25 summarizes means and sigmas for the five measures of parent-child discrepancy (under-

TABLE 25. Means and Sigmas for Parent-Child Discrepancy (Understanding) Measures for Total Groups

Under. Measure	E_1 (N = 71)		C (N = 40)		E_2 (N = 56)	
	M	SD	M	SD	M	SD
Pred SC Disc.	89.55	18.15	86.60	18.68	88.32*	20.31
Pred SPT-B (P) Disc.	12.99	3.61	11.98	2.89	12.91	2.97
Pred SPT-B (O) Disc.	13.85	3.65	13.52	3.02	13.91	3.67
Pred SPT-B (R) Disc.	13.66	3.79	14.15	2.57	15.04	4.28
Pred SPT-B (A) Disc.	13.79	4.29	14.40	4.98	15.45	4.10

* On this measure mothers of E_2 males had significantly lower D-scores than those of E_2 females (t = 2.05, p = .05).

standing) for the three basic groups[3] while Table 26 presents the t ratios testing the significance of the differences among these group means.

TABLE 26. t Ratios Comparing Total Groups on Measures of Parent-Child Discrepancy (Understanding)

Under. Measure	E_1 *vs.* C (df = 109)	E_2 *vs.* C (df = 94)	E_1 *vs.* E_2 (df = 125)
Pred SC Disc.	0.80	0.41	0.36
Pred SPT-B (P) Disc.	1.61	0.25	1.44
Pred SPT-B (O) Disc.	0.95	1.10	0.29
Pred SPT-B (R) Disc.	0.30	1.13	1.90
Pred SPT-B (A) Disc.	0.27	1.09	2.19[b]

[b] Significant at p .05 or beyond.

Although the E_2 mothers may be observed to show significantly less understanding than the E_1 mothers on the SPT-B acceptance measure, since this is the only significant t ratio of the 15 computed, it may be attributed to chance variation. Thus, there appear to be no reliable differences among the several groups of mothers with respect to their understanding.

3. *Relationship of Understanding to Adjustment*

Basic to our concern with measures of parental understanding was the exploration of the relationship between such measures and our indices of adjustment. Since z transformations indicated no significant differences in correlations among subgroups, Tables 27, 28

TABLE 27. Correlations Between Parent-Child Discrepancy (Understanding) and Child Adjustment Measures for the E_1 Group

		Pred SPT-B Disc.			
Adjustment	Pred. SC Disc.	P	O	R	A
SC Adj.	48[a]	14	07	24[b]	25[b]
Discr.	45[a]	08	03	12	26[b]
T.R.	−14	−08	−03	00	05
SPT-B (P)	06	19	11	08	10
SPT-B (O)	−04	17	28[b]	09	13
SPT-B (R)	21	11	21	46[a]	36[a]
SPT-B (A)	−19	−07	−04	−48[a]	−47[a]

[a] Significant at p .01 or beyond.
[b] Significant at p .05 or beyond.

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[3] See footnote 1, p. 95.

TABLE 28. Correlations Between Parent-Child Discrepancy (Understanding) and Child Adjustment Measures for the C Group

Adjustment	Pred. SC Disc.	Pred SPT-B Disc.			
		P	O	R	A
SC Adj.	74[a]	−10	17	28	29
Discr.	60[a]	−10	17	29	24
T.R.	−36[b]	−08	17	−12	03
SPT-B (P)	26	12	−09	05	15
SPT-B (O)	−17	−09	−01	08	21
SPT-B (R)	37[b]	−10	−11	41[a]	08
SPT-B (A)	−37[b]	12	20	−44[a]	−24

[a] Significant at *p* .01 or beyond.
[b] Significant at *p* .05 or beyond.

TABLE 29. Correlations Between Parent-Child Discrepancy (Understanding) and Child Adjustment Measures for the E_2 Group

Adjustment	Pred. SC Disc.	Pred SPT-B Disc.			
		P	O	R	A
SC Adj.	68[a]	23	07	08	45[a]
Discr.	63[a]	22	10	06	44[a]
T.R.	−28[b]	12	07	−04	−24
SPT-B (P)[x]	−11	14	31[b]	−04	18
SPT-B (O)[x]	−06	−02	06	−06	05
SPT-B (R)	35[a]	16	26[b]	59[a]	47[a]
SPT-B (A)	−20	−21	−44[a]	−45[a]	−54[a]

[a] Significant at *p* .01 or beyond.
[b] Significant at *p* .05 or beyond.
[x] Unreliable measures.

and 29 present the correlation matrices for the understanding vs. adjustment variables for the total E_1, C, and E_2 groups respectively.

On the basis of the foregoing tables there would appear to be fairly clear-cut, and in some instances rather strong, relationships between measures of parental understanding and child adjustment which reoccur in all three of the larger groups. For example, the predicted self-concept discrepancy measure in the mother relates as anticipated both to the self-concept adjustment and self-ideal discrepancy scores in all three groups. In both the E_2 and C groups this same measure of parental understanding also relates significantly and in the predicted direction (i.e. the higher the understanding the better the adjustment) to the external teachers' rating scale score. For both experimental groups accurate parental prediction on the SPT-B acceptance scale relates to good adjustment on the self-concept indices as well as to low perceived rejection and high perceived acceptance in the child. These relationships are present to a lesser extent in the control group. Tests of the significance of the differences in the correlations between understanding and adjustment across the total groups, indicate that such differences do not appear to exceed chance.

As noted above zero-order correlations were computed between mothers' education and the five measures of understanding for all three groups (see Appendix X). None of these 15 correlations approached statistical significance. As might be expected then, recomputation of the understanding vs. adjustment correlations with mothers' education partialled out, did not appreciably alter the results presented in Tables 27, 28, 29. These partial *r*s are therefore not reproduced.

4. *"Dummy" Sort*

The "dummy" sort served as a means of comparing parental predictions on the self-concept instrument for "own" child, with those made for the "average" child. The adjustment scores derived from these two sets of predictions were intercorrelated for visual disability subgroups as well as for the total E_1, C, and E_2 groups. These correlations are summarized in Table 30.

TABLE 30. Correlations Between Pred. SC and "Dummy" Adjustment Scores for Sub and Total Groups

E_1	.35[a]
Totally Blind	.65[a]
Legally Blind	.57[a]
Partially Sighted	.00
C	.52[a]
E_2	.44[a]
Totally Blind	.30[b]
Legally Blind	.46[a]

[a] Significant at *p* .01 or beyond.
[b] Significant at *p* .05 or beyond.

Of some interest is the fact that although the correlations for the three larger groups are roughly comparable, there is a striking departure in the subgroups of the E_1 group. Although for the parents of the totally and legally blind *S*s in the E_1 group there is an ample correlation between adjustment scores based on mother's prediction for own child and average child, this correlation disappears completely for the mothers of the partially sighted subgroup. The correlation is in fact, significantly lower for the partially sighted group than for any other E_1 subgroup or any total group. Mothers of partially sighted youngsters appear either to be more capable of differentiating their child from the average child, or else they feel that their child differs more from other children than do the mothers of other disability subgroups.

D. ATTITUDES AND UNDERSTANDING

Another set of data which was of some interest to us involved interrelationships among the eleven measures of parental attitude and the five measures of parental understanding. Since subgroup differences on these correlations did not exceed chance, the pooled correlations for the E_1, C, and E_2 groups are presented in Tables 31, 32, and 33 respectively.

TABLE 31. Interrelationships Between Measures of Attitude and Understanding for E_1 Group

	Master Scale							SPT-A			
Understanding	D	O	R	A	AM	F	AB	D	O	R	A
Pred SC	11	05	17	−14	−02	10	26[b]	−02	08	30[a]	−32[a]
Pred SPT-B (P)	08	17	06	−08	−09	12	17	−14	23[b]	17	−21
Pred SPT-B (O)	09	10	14	−06	−05	10	11	−14	24[b]	26[b]	−27[b]
Pred SPT-B (R)	12	09	11	−08	−06	12	28[b]	12	16	16	−35[a]
Pred SPT-B (A)	24[b]	24[b]	17	−10	−07	18	25[b]	17	09	−03	−16

[a] Significant at p .01 or beyond.
[b] Significant at p .05 or beyond.

TABLE 32. Interrelationships Between Measures of Attitude and Understanding for C Group

	Master Scale							SPT-A			
Understanding	D	O	R	A	AM	F	AB	D[x]	O[x]	R	A
Pred SC	−10	−03	03	08	18	−16	23	10	−21	33[b]	−28
Pred SPT-B (P)	21	10	01	−01	04	06	12	−06	−19	18	−07
Pred SPT-B (O)	−20	−07	−07	12	06	−08	39[b]	12	−07	−01	−02
Pred SPT-B (R)	04	−06	16	−02	12	01	08	−16	−05	06	−03
Pred SPT-B (A)	10	04	05	10	10	−11	01	11	19	32[b]	−33[b]

[a] Significant at p .01 or beyond.
[b] Significant at p .05 or beyond.
[x] Unreliable measures.

TABLE 33. Interrelationships Between Measures of Attitude and Understanding for E_2 Group

	Master Scale							SPT-A			
Understanding	D	O	R	A	AM	F	AB	D[x]	O	R	A
Pred SC	09	18	17	−27[b]	19	13	17	−06	16	20	−25
Pred SPT-B (P)[x]	09	08	14	−07	06	08	07	05	02	05	−09
Pred SPT-B (O)[x]	03	08	−02	−06	08	06	04	−12	24	24	−30[b]
Pred SPT-B (R)	07	27[b]	13	−13	16	06	33[b]	−12	30[b]	−09	−06
Pred SPT-B (A)	06	17	07	−13	20	15	11	−17	30[b]	−01	−10

[a] Significant at *p* .01 or beyond.
[b] Significant at *p* .05 or beyond.
[x] Unreliable measure.

In the main the correlations between parental attitude and understanding measures are low and nonsignificant. Rather clearly the number of significant *r*s does not exceed chance expectations for the C and E_2 groups. In the case of the E_1 group the antiblindness and SPT-A acceptance measure each relates to three of the understanding indices; in like manner the Pred SC and Pred SPT-B acceptance and overprotection measures relate significantly to three of the attitude variables. In sum, whatever low level relationship between attitude and understanding may be found in our data, exists primarily for the E_1 group.

E. FATHERS' DATA

Earlier we indicated that data comparable to those obtained from each of the 167 mothers of the adolescents in this study were also obtained from a smaller sample of fathers (N=66). Since it was possible to see only 12 fathers in the E_2 group, due to the close scheduling and geographic problems, we considered this group to be too small to warrant detailed statistical analysis. Upon more careful scrutiny of the fathers' data from the E_1 and C groups, six of the records proved to be incomplete. The remaining 48 consisted of equal numbers (24 each) of fathers from the two groups. On the basis of these records we compared fathers in the two groups with respect to the attitude measures and the understanding measures, in addition to examining relationships between these father measures and adjustment indices in the child. Appendix Y[4] presents the means and sigmas for the two groups on these 16 measures, in addition to the *t* ratios testing the significance of the differences between the two sets of group means. Significantly less discrepancy between child's perception of pity and father's prediction of child's perception is found in the C group. This finding may be contaminated by the possible spurious inflation of perceived pity scores for the E_1 children (see footnote, 4, p. 62). Additionally on the SPT-A, C fathers are significantly more dominant and less rejecting than are E_1 fathers.

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[4] Available from the American Foundation for the Blind. (See footnote 6, p. 69.)

In order to examine the relationship between fathers' attitudes and child adjustment a series of correlations between the eleven parent attitude measures and the seven child adjustment measures was computed separately for the E_1 and C groups. These correlations are presented in Appendix Z.[5] Since there are only nine significant differences out of the total of 154 correlations examined, it seems appropriate to regard these as having arisen from chance fluctuations. Differences between groups in these correlations as tested by *z* transformations were not present.

The five measures of understanding, each based on discrepancy scores between father's prediction and child's response were also examined in relationship to the seven child adjustment measures. These correlations are presented both for the E_1 and C groups in Appendix AA.[5] Once again we may observe that the number of significant correlations in either group taken singly, or the total for both groups (4 of 70), does not exceed chance. In like manner significant differences between groups with respect to the magnitude of these correlations were not demonstrable.

In setting up the analyses of the fathers' data, we considered it possible that where mother and father disagreed sharply in their perceptions of the child's response, this might be symptomatic of a situation which would make for maladjustment in the child. For this reason we determined mother-father discrepancy scores for three variables: predicted self-concept, predicted SPT-B acceptance, and attitudes to blindness. Appendix BB[5] presents the means, sigmas and *t* ratios for these variables based on the fathers' data for the E_1 and C groups. No significant differences are observed for any of these comparisons.

Finally we wished to determine, for each group, the relationship between these three mother-father discrepancy measures and the seven adjustment indices in the child. These correlations are presented in Appendix CC[6] for both the E_1 and C groups. It is clear that the observed significances do not exceed chance expectations in the groups either singly or together; likewise there are no consistent differences between groups in size of correlations.

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[5] Available from the American Foundation for the Blind. (See footnote 6, p. 69.)

Summarily, analysis of the fathers' data suggests that although the directions of the observed relationships are, by and large, similar to those emerging from the analysis of mothers' data, their magnitude is smaller.

F. MISCELLANEOUS FINDINGS

The foregoing sections describe the basic statistical analyses deriving from the research program and are directed primarily to the questions posed before the investigation was undertaken. These questions, in effect, are to be viewed as the prime issues prompting the research program in the first place. Having accomplished this much, there remained a sizeable mass of data which had been bypassed while the core analyses were being carried out. Furthermore in the very process of carrying out the basic analysis, as is typical in broad research ventures of this type, a series of hunches, best guesses and ideas to be followed up continued to occur to us. We well recognize the potential dangers, particularly that of capitalization on chance, which are inherent in this after the fact type of approach to the analysis of research data. This limitation, however, was counterbalanced in our thinking by the recognition that there was a vast fund of basic data about visual disability which was available to us and as yet untapped. In brief then, we are prepared to take the risk of exploration, recognizing beforehand that our goal in this section is that of providing promising research leads rather than established facts. Moreover in our approach to these unexplored data we have relied heavily upon the technique of validity generalization as our major safeguard. That is to say, we have directed our focus to those relationships which, although come upon in an initially "fortuitous" manner, nevertheless appear to be sufficiently stable to meet the criterion of applicability to one or perhaps even two new groups.

1. *Additional Correlational Findings*

To this point, analysis of data has been restricted primarily to seven measures of adjustment, eleven measures of parental attitude, and five measures of parent understanding—in other words to a 23 x

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[6] Available from the American Foundation for the Blind. (See footnote 6, p. 69.)

23 matrix. Actually, then, we have "used" 254 correlations for each total group for a grand total of 762 correlations. In terms of what was potentially available to us, the 36 x 36 matrix which went into our IBM 650 analysis yields a total of 630 correlations for each of the total groups (35 x 36/2) for a grand total of 1890 correlations. Phrasing the matter otherwise we have therefore drawn upon only 762 of 1890 correlations, equal to approximately 40 per cent of the available correlational data. The 13 unused variables cluster into three categories: selection (control) variables, maternal prediction scores on the SPT-B, and mother adjustment and discrepancy scores derived either from the self-ideal or "dummy" sorts.

The first question we raised, in approaching these 1128 unused correlations (376 per group), was whether the total number of significant *r*s exceeded chance expectancy. This is actually impossible to determine precisely; to do so would presuppose a nondefensible assumption that each correlation was independent of all others. The degree of interdependency of the 1128 *r*s for these data is actually indeterminate. Nevertheless the strikingly high total of 268 significances (24%) at p .05 or beyond offers some preliminary support for the view that a nonchance event has taken place. Moreover the individual totals of significant *r*s out of 376 for each of the subgroups $E_1=114$ (30%), $C=72$ (19%) and $E_2=82$ (22%) suggest a reason-

TABLE 34. Correlations for "Unused" Measures Significant in all Three Groups

Variables*	Groups			Variables	Groups		
	E_1	C	E_2		E_1	C	E_2
1–14	.26	.37	.30	11–12	−.71	−.71	−.69
1–21	.55	.46	.51	11–34	.54	.45	.43
2–21	.54	.39	.49	11–35	−.57	−.50	−.38
7–12	−.29	−.55	−.33	12–34	−.51	−.46	−.27
7–16	.61	.46	.58	12–35	.65	.51	.35
7–22	.40	.36	.51	14–26	.32	.36	.53
7–23	.58	.62	.52	16–21	.45	.60	.62
7–24	.82	.91	.85	16–23	.38	.38	.43
8–21	.62	.36	.57	16–24	.64	.55	.59
8–22	.94	.80	.85	21–22	.62	.34	.55
8–23	.49	.72	.71	21–23	.57	.43	.51
8–24	.23	.51	.42	22–23	.53	.65	.70
9–10	−.38	−.35	−.39	22–24	.30	.39	.59
10–12	−.37	−.39	−.35	23–24	.58	.60	.45

* Legend for variables is presented in Appendix U.

able constancy of this trend within all three groups. The per cent of correlations significant for any given variable, however, varied from the low extreme, #4 (SPT-B, perceived overprotection in the child) — 5.1 per cent, to a high for variable #16 (mother's prediction of child's self-concept—child's self-concept, D score)—53.8 per cent.

To reduce the likelihood of capitalization on chance, we narrowed our focus to variables which yielded significant correlations (in the same direction) for all three groups (i.e., "three group matches"), or where the intercorrelations were significant in two of the three groups and in the same direction but not significantly so for the third (i.e. "two group matches"). Out of a possible total of 376 correlations there were 28 such "three group matches" and 37 "two group matches." These correlations are summarized in Tables 34 and 35 respectively.

TABLE 35. Correlations for "Unused" Measures Significant in Two of Three Groups

Variables*	Groups			Variables	Groups		
	E_1	C	E_2		E_1	C	E_2
1–15	−_.09_**	−.42	−.33	12–16	−.39	−.38	−*.14*
1–24	.42	*.23*	.26	12–23	−.33	−.37	−*.24*
2–7	.37	*.21*	.26	12–24	−.29	−.61	−*.18*
2–14	*.21*	.38	.26	12–32	−.27	−.34	−*.15*
2–24	.40	*.25*	.28	14–15	−*.03*	−.42	−.40
6–15	*.08*	.34	.29	14–25	.33	*.26*	.38
7–9	.38	.32	*.14*	14–28	−.35	−*.30*	−.49
7–11	*.19*	.45	.28	14–30	.31	*.28*	.37
7–13	−.29	−*.29*	−.31	15–16	−.37	−.42	−*.24*
7–15	−.26	−.39	−*.17*	15–24	−.27	−.38	−*.24*
7–21	.37	*.22*	.46	15–26	*.00*	−.31	−.41
7–34	.42	.38	*.24*	15–31	−*.14*	−.40	−.29
7–35	−.41	−.35	−*.16*	17–21	.25	*.25*	.33
9–12	−.27	−*.25*	−.28	17–24	.45	*.24*	.32
9–17	.44	.32	*.25*	21–24	.39	*.26*	.43
9–24	.30	.43	*.14*	21–27	.28	*.18*	.30
11–16	.26	.40	*.01*	21–34	.25	.35	*.12*
11–32	.32	.31	*.19*	23–34	.33	.34	*.21*
				31–36	.30	*.25*	.31

* Legend for variables is presented in Appendix U.
** Nonsignificant correlation is *italicized* in each set.

The foregoing three and two group matches run the entire gamut of variables employed in the present study. Some of the relationships are significant as a function of spurious inflation of the *r* by virtue of common elements contained in both of the measures; other significant relationships are of little practical significance. Nevertheless we are prepared to proceed on the basis of the assumption that three group matches, because of the inherent double independent cross validation, represent nonchance occurrences, while two group matches, particularly where the third correlation approaches but barely falls short of significance in the same direction, also suggest nonchance relationships between experimental variables. We are, however, prepared to make the timesaving value judgment that these empirically observed relationships may be ordered along a continuum of probable importance. Accordingly, we shall not attempt to transcribe each literally; rather we shall place emphasis upon those relationships which are likely either to help us better to understand the nature of the present findings or else seem to represent promising leads for subsequent research investigation.

1. Good adjustment as reflected by one or both self-concept measures (1, 2)[7] is associated with high socioeconomic status (14), and high IQ score (15). It also relates to low discrepancies between the mother's "dummy" sort and the child's self sort (21).

2. The adjustment score derived from the mother's prediction of the child's self-concept (7), appears to be a variable which relates in a logically consistent manner to a number of other measures. Thus good adjustment on this index is associated with high teachers' ratings (13), as well as with the following additional variables: low maternal prediction of SPT-B pity (9) and rejection (11) and high maternal prediction of SPT-B acceptance (12), high IQ (15), low maternal rejection and high maternal acceptance on the SPT-A (34, 35), and to low discrepancies between: mother's "dummy" sort and child's self-concept (21), mother's "dummy" sort and child's ideal self (22), mother's "dummy" sort and mother's prediction of child's self-concept (23).

3. There is a cluster of significant interrelationships deriving from the four maternal prediction scales on the SPT-B and the four maternal attitude scales on the SPT-A. Thus low predicted SPT-B pity (9) relates to high predicted overprotection (10) and to high predicted acceptance (12), while high predicted overprotection (10)

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[7] Parenthetical numbers in this section of the test indicate the number of the respective variables in the legend of Appendix U.

and high predicted rejection (11) are each related to low predicted acceptance (12). Low maternal prediction of rejection on the SPT-B is associated with low actual attitudes of dominance (32) and rejection (34), as well as high acceptance (35) on the SPT-A. Similarly high maternal SPT-B predicted acceptance (12) relates to low dominant (32) and rejectant (34) attitudes and high maternal acceptance (35) on the SPT-A. These interrelationships reflect a basic constancy inherent in several types of estimates of maternal attitudes deriving from the Situations Projective Test.

In terms of variables outside of these immediate clusters it is of some interest to note that high predicted rejection scores by the mother on the SPT-B (11) relate positively to high mother-child discrepancies on the self-concept measure (16); this relationship is equally strong but in the opposite direction when we substitute SPT-B predicted acceptance (12) for predicted rejection (11).

4. A series of relationships, now to be described, pertains to the control variables used in this research. Low scores on the SES scale (14) (i.e. high socioeconomic status) were associated with high IQ (15). The first of these measures related significantly to low dominance (25), low overprotection (26), high acceptance (28) and low F scale (30) scores as derived from the Master Scale, while high IQ (15) co-occurred with small mother-child D-scores on the self sort (16), and low maternal Master Scale scores for overprotection (26) and negative attitudes to blindness (31).

5. Several discrepancy measures not employed in our basic 23 x 23 matrices yielded interesting and consistent cross-measure relationships. Thus low discrepancy between mother's rating of the typical child (i.e., "dummy" sort) and the child's self-concept (21) was associated with: good adjustment as indicated by the child's self-concept adjustment score (1), low self-ideal discrepancy in the child (2), a good adjustment score based on mother's prediction of the child's self-concept (7), low mother-child discrepancy on the self sort (16), low maternal rejection on the Master Scale (27), and low maternal rejection on the SPT-A (34). Another rather strong empirical correlator identified in the present study was the discrepancy score between mother's prediction of the child's self-concept and the child's ideal self (24). Low scores on this measure were related to: low predicted pity (9) and high predicted acceptance (12) by the mother on

the SPT-B, and low discrepancies on mother's "dummy" sort minus child's self sort (21), among others.

6. Potentially, we would anticipate that a number of correlations might be significant as a logical consequence of the dependent relationships inherent in the basic findings in the area of maternal understanding. Thus, the fact that low discrepancy between self-concept sorts by mother and child (16) is linked with good adjustment as measured by one or both self-concept measures (1, 2) and teachers' ratings (13), would lead logically to a series of expectations. These include the following: 1) low discrepancies between mother's prediction of the child's self sort and child's ideal sort (24) should relate to good adjustment in the child (1, 2), and to low discrepancies between self-concept sorts by mother and child (16); 2) a good adjustment score reflected in the mother's prediction of the child's self sort (7) should relate to good adjustment in the child (2, 13), to low discrepancies between self-concept sorts by mother and child (16) and to low discrepancies between mother's prediction of child's self-concept and child's ideal self (24). As may be noted from the findings summarized in Tables 34 and 35 the relevant empirical analysis confirms these expectations.

7. Finally, more negative attitudes to blindness (31) were manifested by mothers of older children (36).

The foregoing summary, does not exhaust the significant inter-variable relationships found in this study. Instead it extracts those judged to be relatively more significant and seeks to group them so as to facilitate subsequent discussion. In the main, despite the fact that, for simplicity's sake, we have fused "two group matches" and "three group matches" the relationships between variables of the present study which have been presented are roughly constant across groups. There is little or no basis for believing that the basic nature of these relationships is differential for the several major groups studied.

2. *A Tentative Prediction Equation for Adjustment*

It seemed desirable to us, as one approach to the sizable number of available correlation coefficients, to explore the possibility of developing a series of multiple predictors to some criterion of adjustment. This venture within the framework of multiple correlation technique from the moment of its conception onward, was cast in a purely empirical light.

Our study included a total of seven adjustment measures. In our choice of a criterion adjustment variable we eliminated the teachers' rating measure, because of the change of instruction in the use of this measure with our residential sample. We also ruled out the four SPT-B measures due to the underdeveloped state of this technique, thus narrowing the choice to one of the two self-concept measures—Variable 1 (self-concept adjustment score) or Variable 2 (self-ideal discrepancy score). Since the intercorrelations between these two measures were in the mid-nineties for all three total samples, the final choice between the two seemed to make very little difference. Our ultimate selection as the dependent or criterion measure for the multiple *r* was the self-concept adjustment score (# 1) which, inspectionally, appeared to be slightly better as a general correlator; however the results would have been fundamentally similar had self-ideal discrepancy score (# 2) been used instead.

In general terms, standard procedures for the determination of optimal predictors were followed (McNemar, 1949). Accordingly we mapped out the zero-order correlations between self-concept adjustment score and all other variables. As predictors we were oriented toward variables which had: (1) substantially high correlations with the criterion variable and (2), relatively low correlations with each other. The E_1 sample was selected as the group for the initial development of the multiple *r* because it was the largest of the three groups. A series of predictor combinations was explored within E_1, with ample awareness of the capitalization upon chance inherent in this procedure. Compensating for this however, was the fact that any empirical set of predictors to be developed in this manner, would have to meet the test of applicability to the two remaining independent samples (C and E_2) as well, before it could be considered useful.

For the E_1 sample the highest zero-order correlation between Variable # 1, the criterion, and the remaining 34 potential predictor variables (excluding Variable # 2) was .55 with Variable # 21. Parenthetically, we may also note that the correlations between Variables 1 and 21 were roughly comparable for the other two samples, being .51 for C and .46 for E_2 respectively. This, in effect, was the magnitude of the correlation with which the eventual multiple *r* was to be compared. Based solely on the data for the E_1 sample a series of trial predictor combinations was evolved, and these combinations were worked through using the DuBois multivariate correlational analysis technique (DuBois, 1957) so as to yield multiple *r*s. After trying some five or six combinations, it became evident that the highest multiple *r* resulted from the use of four predictor variables (# 6, 7, 21, 14) and one suppressor variable (# 22). A legend describing the function of each of the variables entering into the final prediction formula is presented in Table 36.

TABLE 36. Variables Used in Prediction of Adjustment by the DuBois Multiple Correlation Technique

Type of Variable	Notation	Matrix Number	Description
Criterion	X_0	1	Child's SC Adjustment Score
Predictor 1	X_1	6	Child's SPT-B Perceived Acceptance
Predictor 2	X_2	7	Mother's SC Adjustment Score
Predictor 3	X_3	21	D-score (Mother's Dummy Sort–Child's SC)
Predictor 4	X_4	14	Index of Socioeconomic Status
Suppressor	X_5	22	D-score (Mother's Dummy Sort–Child's IS)

Based on the use of these variables in the manner specified above, it was found that the resulting $r_{0.12345} = .735$, representing a substantial improvement over the highest zero-order predictor in the group ($r = .55$ for 1 and 21). The multiple regression equation based on the beta weights determined from the DuBois standard score method of computation is as follows:

$$(E_1)\ \overline{Z}_0 = -.3001\,Z_1 + .1834\,Z_2 + .6004\,Z_3 + .1794\,Z_4 - .2980\,Z_5.$$

Although the development of a multiple predictor of this magnitude was quite encouraging, we recognized, as McNemar (1949) has pointed out, that any given multiple *r*, reached through such a baldly empirical approach, may be spuriously inflated because of capitalization on sampling fluctuations. There are numerous illustrations in the psychological literature of multiple prediction formulae, so empirically derived (Kotkov and Meadow, 1953) which do not hold up against rigorous attempts at cross validation or validity generalization (Auld and Eron, 1953). The crucial test of the formula would have to come from an assessment of its shrinkage when applied to new and independently constituted samples, in this case C and E_2. Accordingly, multiple correlations using precisely the same criterion, predictor and suppressor variables were computed for the other two samples. The resulting values of the multiple *r* were: $r_{0.12345} = .664$ for C and .705 for E_2. In like manner the regression equations for C and E_2 are highly comparable to those reported from E_1:

$$(C)\ \overline{Z}_0 = -.2359\ Z_1 + .1796\ Z_2 + .4082\ Z_3 + .3049\ Z_4 - .1783\ Z_5$$
$$(E_2)\ \overline{Z}_0 = -.2549\ Z_1 + .1199\ Z_2 + .6481\ Z_3 + .1394\ Z_4 - .3898\ Z_5$$

Since the two validity generalization applications indicate an unusually small amount of "shrinkage" in the multiple correlation coefficient, we are inclined to view the derived multiple *r* as a relatively stable statistic, notwithstanding the high level of empiricism underlying its initial development.

G. SUMMARY OF RESULTS

The presentation of the basic findings of this study has necessarily, albeit regrettably, been a lengthy and complex undertaking. It is our belief that it may be helpful to the reader for us to summarize briefly, and at a very general level, some of the more important results we have obtained.

1. The adjustment indices employed in the present research, yield a rather heterogenous group of measures. The two self-concept variables always correlate highly with each other. The teachers' ratings correlate moderately well with the self-concept measures for the C and E_2 groups, and the SPT-B indices of perceived rejection and perceived acceptance also correlate at an intermediate level with the self-concept measures.

2. There are no over-all significant differences among degree of disability subgroups within E_1 and E_2 on any of the seven adjustment measures. If anything, in fact, the totally blind *S*s tend to score in the direction of better adjustment on the self-concept indices than do their less disabled peers.

3. While for the most part there are few differences on the adjustment measures among male and female subgroups, there is some evidence suggesting that the E_2 males are significantly better adjusted than E_2 females with respect to the two self-concept measures.

4. Comparison of the three total samples on the adjustment

measures indicates few significant differences. However for the self-concept measures the order of adjustment going from best to poorest is E_2 males, E_1, C and E_2 females. It was not possible to derive, using item analysis techniques, a cluster of items which reliably differentiated the experimental group from the control group.

5. By and large, the seven attitude scales from the Master Scale intercorrelate rather highly with each other. However, insofar as the SPT-A attitude measures are concerned only the rejection and acceptance indices show stable cross-group correlations. Correlations across Master Scale and SPT-A attitude indices vary from group to group and are highest when the SPT-A acceptance measure is involved.

6. Few attitude measures discriminate among the mothers of the three groups. Interestingly E_2 mothers are lower on the anti-blindness measure than either of the other groups of mothers. They also appear to have less overprotective attitudes than the E_1 mothers and less rejecting attitudes than the control mothers.

7. The relationships between maternal attitudes and child adjustment were strikingly low throughout the study. Except for the E_2 group they appear to be explainable in terms of chance fluctuation. For the E_2 group however high maternal F scale scores related significantly to poor adjustment on both self-concept measures, teachers' ratings and perceived rejection. All 11 significant attitude-adjustment correlations for this group were in the expected direction (i.e. negative maternal attitudes related to indices of poor adjustment in the child).

8. Relations among the five understanding measures used in this study tended to be low, positive, and significant for E_1 and E_2, but not for C. There were no reliable mean differences among the three groups of mothers for any of the measures of understanding.

9. Substantial relationships were found between measures of maternal understanding and child adjustment cutting across all three groups. Though the precise relationship varied somewhat from group to group, good maternal prediction on the self-concept measure related to indicants of good adjustment on both self-concept measures, to teachers' ratings, and to the perceived rejection and perceived acceptance dimensions of the SPT-B. Similarly, accurate

parental prediction on the SPT-B, particularly the acceptance scale, and secondarily on the rejection and overprotection dimensions, also related to indices of good adjustment on varying adjustment measures.

10. Relationships between measures of maternal attitude and maternal understanding were extremely low throughout the study, and with the possible exception of the E_1 group these do not exceed chance.

11. A separate and complete set of analyses based on subsamples of 24 fathers each from the E_1 and C groups was carried out so as to parallel those for mothers' data. These analyses yielded no new significant findings; in fact some of the important relationships (e.g. between understanding and adjustment) evident in the mothers' data, either do not hold up or become weaker when fathers' data are substituted.

12. The basic analyses of the study drew upon 254 *r*s from the 630 entry correlation matrix (36 x 36) for each group. Intensive examination of the "unused" 376 *r*s per group identified a cluster of 28 *r*s significant in all three groups, and an additional 37 *r*s which were significant in two groups and in the same direction, although falling short of significance for the third. While some of these "matches" may have been either fortuitous, artifactual or relatively inconsequential, at least several may suggest interesting research leads.

13. Using the self-concept adjustment score for one group as the criterion variable, it was possible to set up a multiple regression equation with four predictor and one suppressor variables, yielding a multiple r of .735 which was substantially higher than any of the constituent zero-order criterion *r*s. When the other two samples were used as validity generalization groups, shrinkage in the empirically derived multiple r was found to be minimal.

CHAPTER VI

Discussion

Our research has grown out of a series of questions which we consider to be pivotal and significant ones in the quest for further knowledge of the determinants of adjustment to visual disability in adolescence. Armed now with the facts uncovered during the course of our investigation, it is appropriate for us to return to these guiding questions in order to assess, as realistically as possible, how our understanding of these issues may have been extended by the present findings.

Clearly the backbone for this type of discussion is the material presented in the preceding (results) chapter. We would hope to achieve not only a reasonably organized and synthesized summary of what we have found and what we think it means, but also some preliminary rapprochement between the present findings and those already available in the larger body of professional literature.

Our emphasis here, as it has been throughout the volume, will be on the guiding questions which we could, relatively fully and clearly, specify at the outset of the study. Beyond these, however, we also expect to deal with the less expected and even "fortuitous" type of finding either *sui generis,* or as it may serve to throw additional light upon the more central issues inherent in the research. At times our final interpretations will be direct, straightforward and clear-cut; at other times we will undoubtedly appear to be indirect, circuitous and hedging. Such, it seems to us, is the nature of the data.

A. ADJUSTMENT OF VISUALLY DISABLED AND SIGHTED ADOLESCENTS

Certainly one of the focal questions underlying this study, one which was raised on the very first page of the volume, is "How do visually disabled adolescents compare with demographically similar sighted adolescents in terms of personality make-up and adjustment?" This has been rather a time-honored question in the area of the psychology of visual disability, one which has been approached experimentally perhaps as frequently as any problem in the entire field. Our hoped for contribution rested not at all upon the novelty or originality of the question we were posing but rather in the method by which we were seeking to answer it. Our review of pertinent literature, which need not at this point be re-examined (cf. see Chapter 2), uncovered a plethora of problems with respect to sampling and design, control, instrumentation and methodology, seemingly indigenous to a preponderant number of earlier studies. This added up to a pall of confusion around their substantive findings. In particular, earlier studies have suffered from: the unmodified application of instruments used with the sighted to the visually disabled, comparison of residential disabled to home-living sighted controls, and serious inattention to matters of cross-group matching on basic control variables.

In our own work we have been duly cognizant of these significant experimental problems; on the other hand it is evident that we have not in all instances achieved a satisfactory resolution of them. On the positive side of the ledger we feel that the time invested in the development of instruments and assessment procedures suitable for the visually disabled adolescent was time well spent. Realistically, however, not enough time was given to such activity during the methodological period preceding the major content portions of the study. Consequently we have had to depend at times upon techniques which had basically unsatisfactory reliability as well as a dubious base of empirical validity (e.g., portions of the SPT-B test of adolescent perception used as one of our measures of adjustment). The matching of our groups of home-living and residential visually disabled adolescents and sighted controls (see Tables 2 and 3) represents a substantial improvement over the typical earlier study in this area. Even so, it leaves much to be desired. These flaws, as we shall see, will come back to haunt us later on as we seek to interpret certain aspects of our data. Although we can comfortably defend the position that the present study has avoided some of the serious pitfalls of design and methodology of its predecessors, it is far from being beyond reproach on these vital counts.

Be that as it may, the position we reached following our survey of the literature, was that adequate data upon which to base generalizations about the comparative adjustment of visually disabled and sighted adolescents were not available. To the extent that one wishes to base such a conclusion upon studies which had been reported without due regard to matters of experimental rigor, the weight of evidence pointed in the direction of poorer adjustment for visually disabled *S*s. Such a generalization doubtless accords well with popular superstition, stereotype, and the layman's belief.

Present findings with respect to adjustment derive from three basic instruments: the self-ideal sort, SPT-B, and teachers' ratings, which collectively yield a total of seven measures. That these measures were at times either not measuring adjustment, or measuring very different facets of it, is evident from inspection of the tables of intercorrelations drawn up for them in each group. The two self-concept measures correlate very highly with each other, so much so, in fact, that they may most parsimoniously be seen as a single measure. Apart from their face validity, they represent a type of measure which has been fruitfully used in a number of earlier research studies (e.g., Rogers and Dymond, 1954). Obviously, the Self-Ideal Sort is highly dependent upon the internal perceptions as well as the frankness of the respondent.

The second measure, teachers' ratings, represents, both logically and functionally, a very different approach to the assessment of adjustment. It is a purely external device based upon observations of a child's behavior from the frame of reference of a presumably objective and impartial observer. The reliability of the teachers' rating device, though only moderate, at least suggests a reasonable amount of overlap and communality in the ratings of two such observers. The pattern of intercorrelations between the self-concept measures and the teachers' ratings is an interesting one indeed. For the E_1 group, this correlation is virtually non-existent; however for the C group there is a moderate positive correlation (.37) between these two measures. This is about the magnitude of the correlation we had expected beforehand. On the other hand the absence of correlation between the two measures in the E_1 group, presented a major hurdle to the final interpretation of the data. For, in effect, it suggested that one or the other measures may not have been reflecting adjustment at all, and made extremely difficult any synthesis of the findings across the two measures. Upon careful consideration of this dilemma and of the factors which might be causing it, it occurred to us that we had failed to make clear in the original instructions to the raters accompanying this instrument, that ratings for the visually disabled *S*s were to be made from within the frame of reference provided by their own peer group. This was indeed a serious problem since our

E_1 sample was drawn from public education facilities. Hence the teacher-raters were likely to be in daily contact with sighted adolescents, and to use the latter as a reference group for their ratings. This likelihood was suggested by spontaneous comments of teacher-raters in this group describing difficulties that they had experienced in deciding whether to rate the child's behavior by comparing him to other visually disabled or to sighted children. It was this realization that prompted the sole procedural change in the final collection of data with the residential (E_2) sample. In this case the teachers were explicitly told to use the peer visual disability group as the reference group for their ratings. The correlation of .40 between the self-concept measure and the teachers' ratings for the E_2 group suggests that the decision to change sets was probably a sound one. Furthermore, it enables us to conclude that these two rather diverse adjustment measures, one reflecting the internal frame of reference of the adolescent respondent, and the second mirroring judged external reality are, at least in part, measuring something in common.

The third group of adjustment measures, the SPT-B with scales representing perceived pity, overprotection, rejection, and acceptance, is in turn quite different from either of its two predecessors. This, as a multiple choice projective device, also involves the internal frame of reference of the respondent. However, its content is presumed to reflect different facets of adjustment than does the Self-Ideal Sort. Moreover, since the test is ostensibly based upon reality stimuli (either verbal or verbal plus pictorial) the relevance of the responses to aspects of adjustment is likely to be more subtle in the eyes of the respondent. Regrettably, the SPT-B was thrown into the firing line prematurely. The test is lacking in empirical validity, and rests largely upon a type of face validity growing out of judges' agreement that given response options do, in fact, represent dimensions of child perception. The reliability estimates for this test based on our original collection of data for E_1 and C were quite satisfactory, having a median of about .70. However, for reasons which we do not yet clearly understand, the reliability of the pity and overprotection scales broke down completely with the E_2 group. Results based on these latter two scales, involving the E_2 group, cannot therefore be regarded as stable.

The relationship of the SPT-B measures to the other adjustment indices is somewhat variable across groups, but even more variable across the four measures themselves. The P and O measures do not depart from chance in their intercorrelations with the other indices. On the other hand both the rejection and acceptance measures correlate significantly with the self-concept measures (the median *r*s for R and A are about .30 and .42 respectively) but not with the teachers' ratings. Basically then, evaluation with respect to the adjustment factor must come from the two self-concept measures, teachers' ratings and the SPT-B R and A scales. Each of these measures is sufficiently reliable to warrant inclusion in any final reckoning, and the intercorrelations among them suggest that while basically independent of each other, they nevertheless reflect some common elements of the global concept of adjustment.

1. DISABILITY SUBGROUPS

While our primary focus was toward the question of over-all differences between two visually disabled and an otherwise comparable but sighted control group of adolescents, we also wished, en route, to achieve some better understanding as to whether subgroups within the E_1 and E_2 groups, varying in degree of visual disability, were differentiable with respect to adjustment. Accordingly, a preliminary analysis was carried out comparing the three disability subgroups in our E_1 sample (partially sighted, legally blind and totally blind) and the two E_2 disability subgroups (legally blind and totally blind) on all measures of adjustment. The findings deriving from this analysis are quite clear-cut (see Tables 8 and 9). There are no significant or near significant differences in any comparison of subgroups in either the E_1 or E_2 samples for any measure of adjustment.

Inspection of the mean adjustment scores on the self-concept measures for the E_1 sample indicates that the order of progression for subgroups from best to poorest is: totally blind, legally blind, partially sighted. Although we are speaking here of nonsignificant differences, we may note parenthetically that this finding is directionally consistent with those of Morgan (1944), Brieland (1950), Diamond and Ross (1945) and U. S. Veterans Administration (1958) who reported the greatest adjustive difficulties among partially sighted *S*s. Such might be expected on the basis of the theoretical notion of overlapping psychological positions (Barker et al., 1953; Meyerson, 1955) which would typify a marginal group such as the partially sighted. When *S*s in the E_1 group are ordered along a continuum of degree of disability, this variable is found to correlate +.14 (n.s.) with self-concept adjustment (i.e., directionally, the more disabled the *S*, the better adjusted does he seem to be). By adding the control group to the E_1s and doing a pooled correlation between degree of disability and self-concept adjustment, this value increases to .19 (p=.05). Although this latter correlation is statistically significant it is so small (accounting for less than 4 per cent of the variance) that it is virtually meaningless functionally. However the very fact that the correlation exists is surprising since the E_1 group is significantly lower in socioeconomic status than is the control group, so that the "cards are loaded" in the direction of poorer adjustment for this group (Anastasi, 1958). In this finding we tread dangerously close to the suggestion that the greater the disability the better the adjustment.

Summarily, we do not consider that the present data offer firm support for the belief that the partially sighted are more poorly adjusted than other disability subgroups. On the other hand the data presented strongly contradict the notion of any positive relationship between degree of disability and degree of maladjustment. Insofar as our criterion indices of adjustment are adequate ones it may be said that there are no differences among degree of disability subgroups with respect to their levels of adjustment.

2. SEX SUBGROUPS

Interpretation of the data in this area is somewhat more complicated than was the case for disability subgroups. Here, the major difficulty stems from a matching failure within the E_2 group. Our procedure in selecting E_2 *S*s involved trying to approximate as closely as possible the already constituted E_1 and C groups with respect to the basic selection variables of the study—age, I.Q., grade placement and SES. Running tallies were kept as E_2 youngsters were tested in order to maximize the probability of a close match across samples and, also, so that additional *S*s could be selected with the idea of reducing any disproportionalities which seemed to be emerging. Regrettably, these tallies were done on a group basis rather than separately for each sex. Accordingly in our *post hoc* "routine" comparison of males and females in the E_2 group, we discovered, too late, that residential males were significantly higher in I.Q. than the residential females. This is particularly unfortunate because of the reliable correlation between I.Q. and adjustment in the E_2 group.

Prior to the present research conflicting findings have been reported with respect to the problem of sex differences in adjustment among the visually disabled. Whereas Brown (1939) found males to be better adjusted than females, Sommers (1944) reports exactly the opposite. In our own investigation no sex differences were found for any of the seven adjustment measures when comparing E_1 and C; however in the E_2 group males score as significantly better adjusted than the females. This datum accords with Brown's earlier findings. Furthermore we may note, quite apart from the area of disability, that the preponderant majority of studies comparing the adjustment of adolescent females as opposed to males as measured by a variety of self-report instruments, has produced results suggesting poorer adjustment for the females (Anastasi, 1958).

The interpretation of the present finding, however, is at least partially confounded by the relationship between self-concept adjustment and intelligence. This limitation notwithstanding, it is appropriate to observe that the absolute differences between E_2 males and females on this measure are quite sizable. In fact E_2 males are directionally better adjusted and E_2 females directionally more poorly adjusted than the over-all E_1 and C groups. On this basis, despite the contamination in our data we are inclined to believe that there may be a genuine tendency for the residential males to be better adjusted than the residential females within the limits of the particular criterion measures in question. Whether this difference is merely a specific manifestation of a more generalized sex difference in adolescence (Anastasi, 1958), whether it is due to possible selective factors underlying placement in residential schools, or whether it is a direct effect of residential living is a matter which can only be resolved by subsequent research.

3. TOTAL GROUP COMPARISONS

These subgroup differences aside, we may now take up the matter of comparison of the three larger samples in terms of their responses on the several adjustment measures. With respect first to the two self-concept measures, although the total E_2 group does not differ significantly from the over-all E_1 of C groups, we have already observed that the E_2 males appear to be generally better adjusted than the total E_1 or C groups (significantly so vs. C for SC Discr.) while the E_2 females in general appear to be less well adjusted than the total E_1 or C groups (significantly so vs. E_1 for SC Adj. and SC Discr.). With no cross-group differences on teachers' ratings, all four remaining significant differences (out of the over-all total of 21 comparisons) are confined to SPT-B measures and these do not appear to follow a clear-cut pattern.

The E_1 *S*s perceived significantly more pity than did the Cs. While it may be tempting to interpret these data as offering support for the notion that a pity seeking response is characteristic of a disability group, on the basis of our small control study (see footnote 4, p. 62) such a "dynamic" interpretation is rendered untenable. It may be recalled that the visually disabled *S*s responded to a verbal description of the stimulus cards while the sighted controls responded to pictorial stimuli. When a separate subsample of 38 sighted *S*s was tested using only the verbal descriptions, all categories remained constant, with the exception of perceived pity which increased significantly ($p = .05$). Accordingly it would seem to be more parsimonious to attribute the higher perceived pity of the E_1 group when contrasted to the C group as a consequence of the particular mode of testing rather than as reflecting a dynamically meaningful pattern of attitude perceptions in these *S*s.

The E_1 *S*s manifest significantly less perceived rejection than do the controls. On the assumption that our C group represents a typical sample of nondisabled adolescents, this finding may be viewed as consistent with Sommers' earlier observation (1944) that blind youngsters are not as likely as their sighted siblings to consider themselves less favored within the family structure. This finding does not, however, imply that residential visually disabled children do perceive more rejection than sighted adolescents. To the contrary the facts indicate that our E_2 group perceives no more rejection than does the C group (in fact, directionally, they perceive less).

On the other hand, the E_2 group does perceive significantly more overprotection than the control group and significantly less acceptance than the E_1 group. These findings may be viewed as internally consistent and mutually supporting. Perhaps it is that the residential youngster having less parental contact and with it, somewhat diminished identification potential with respect to close adult figures, is less secure in his feeling of perceived acceptance. Similarly it may be argued that the heightened perception of overprotection by the E_2 *S*s derives in part from the more formalized and codified benevolent care which may be an almost inherent by-product of residential schools.

While the foregoing differences appear to be numerous enough to be considered to exceed chance, it is equally clear that no striking pattern emerges which would allow us unequivocally to rank order our constituent groups with respect to a dimension of adequacy of adjustment. To the contrary, we are far less impressed with the few differences which are present than we are with the remarkable degree of comparability and overlap among the three groups. Such an evaluation is buttressed by the strikingly negative results deriving from the item analyses which were undertaken. For, in these, we were, in a sense, giving our groups a second chance to differentiate themselves from each other in terms of adjustment, but this time at a considerably more molecular level (i.e. that of specific test items). It was, of course, theoretically admissible that even with few over-all differences on global adjustment measures, specific items or clusters of items could be identified which reliably discriminated among groups but in such a manner that they counterbalanced each other in their contribution to a given scale score (cf. Jervis, 1959). Such was not the case; the cross-group individual item differences for three self-concept derived measures were strictly at a chance level, thus strongly reinforcing our belief that the most prominent feature of the adjustment data was the high degree of cross-group similarity.

4. INCIDENTAL ADJUSTMENT FINDINGS

Based on our empirical analysis of cross-group correlations there is an evident relationship in all three groups between adjustment as reflected by our self-concept measure and socioeconomic status. Thus the higher the family SES, the better adjusted the child, these relationships tended to be low, positive, and significant. This finding accords well with the prior body of literature extensively summarized by Anastasi (1958). The frequently observed positive relationship between socioeconomic status and intelligence (McNemar, 1942; Seashore, Wesman and Doppelt, 1950; Loevinger, 1940; Neff, 1938; Burchinal, Gardner and Hawkes, 1958) appears in our study once again but only for the C and E_2 groups. It follows from the foregoing sets of findings that there should also be a positive relationship between intelligence and self-concept adjustment for C and E_1 and this is corroborated in our findings. We are at a loss in trying to explain the absence of relationship between IQ and SES and between IQ and adjustment in our E_1 sample. In the apparent absence of a restricted range for this group on any of these measures, and in the light of the presence of the typical relationships among these three variables for the other two groups, our inclination is to attribute the observed lack of relationship in the E_1 groups to sampling fluctuations.

5. IMPLICATIONS OF ADJUSTMENT DATA

Departing from our piecemeal analysis of segments of the data, we may now pose the pertinent question of "What does all this mean?" It is, to us, apparent that the hard core of our findings in the area of adjustment is well summarized in the statement that visually disabled *S*s are remarkably comparable to their sighted peers with respect to the adequacy of their psychological adjustment. It would be impossible to defend the notion, consistent with laymen's beliefs and some earlier professional literature, that visual disability by its nature predisposes to maladjustment. These findings bring to mind Lowenfeld's observation when, in an introduction to the discussion of cognitive, locomotor and personality aspects of blindness, he states ". . . blindness creates problems *sui generis* only in the areas of cognitive functions and mobility" (Lowenfeld, 1955, p. 214). Lowenfeld here appropriately suggests that there is no inevitable link between the fact of blindness and either the development of specific personality patterns or of maladjustment in the individual. Our own data warrant an even stronger speculation—this statement may hold not only at the level of the individually blind person, but may extend to large scale comparisons of visually disabled groups to sighted groups vis à vis dimensions of adjustment.

It is our contention that final judgments about the adjustment of visually disabled individuals must emerge from careful and rigorous research inquiry. The notion that it may be "logical" for some to expect maladjustment as a consequence of sensory impairment, or even that such logic may be buttressed by research evidence based on inappropriate methodology, is an insufficient base for ultimate scientific proof. The history of science is studded with concepts, viewpoints and theories which at one time seemed logical, plausible, and consistent with available evidence, but which ultimately crumbled before the onslaught of new empirical data. Similarly, the case history and individual observational approaches, from which generalizations about adjustment to visual disability have been drawn, may be helpful, but such approaches are subject to gross bias, and, improperly used, may lead to premature and nondefensible generalizations. The most effective use of these approaches undoubtedly lies in the provision of fruitful hunches which then constitute a basis for more formal research inquiry. Regrettably, a major source of present beliefs about adjustment to visual disability derive from some combination of logic, case history and observation, and poorly controlled research.

We cannot help but turn our thoughts to the concluding statement of Barker et al.'s chapter on impaired vision: "Probably the most impressive fact yet discovered about the psychology of the blind is the relatively small amount of personality disturbance that accompanies it" (Barker et al., 1953, p. 290). To say that the present findings heavily underscore this observation would be a conservative understatement. In our view the burden of proof must rest with those who would take the position that visual (or any other type of) disability co-occurs with indicants of maladjustment, rather than to assume such a relationship until it can be disproved.

Our basic generalization has been expressed rather forcibly, since this represents our most direct, unvarnished interpretation of the data deriving from the present phase of our investigation. It may nevertheless be necessary to consider, at least briefly, those facts which temper it or, perhaps more appropriately, provide the matrix within which it should be construed. For one thing, our generalizations about adjustment quite beyond their restriction to the adolescent age range, can be no better than the criteria by which we sought to measure this entity. Earlier in the chapter we alluded in some detail to the technical limitations of the criterion adjustment indices which we have employed. It will suffice here merely to recall these limits without attempting to repeat the specific and concrete failings. Even if our instruments could be regarded as unassailable, which they are not, there still remains a significant value judgment in their selection. Adjustment is a highly abstract concept, to which operational meaning is given through the selection of specific criterion instruments. Our own choice of measures was dictated by the desire to cover a variety of approaches to assessment—internal perception of the respondent as well as external observations of behavior, self report and projective responses, etc., all being bound by the common denominator of applicability to visually disabled adolescents. There can be little doubt that in the process of instrument selection, the present authors were expressing something of a value judgment. And, although this is a type of value judgment which the experimenter must make very frequently, this fact should not obscure the realization that whatever the judgment, restrictions upon generalization will follow. Without question other investigators might have preferred very different types of criterion indices (e.g., measures of physiological function, sociometric techniques, behavioral report, interview data, etc.).

As we review our own judgments in this regard, retrospectively, we feel, on the positive side, that we have moved forward a stride in the development of relatively more subtle measuring procedures, which, with further methodological effort, may in the future contribute more substantially to the appraisal of adjustment of visually disabled *S*s. On the negative side of the ledger, our *post hoc* impression is that our criterion indices of adjustment have probably weighed too heavily upon the verbal behavior of the respondent. Thus for six of our seven measures (the two self-concept indices and the four SPT-B perception scales) our evaluations concerning adjustment rest squarely upon what the respondent has to say about himself, and in that sense are subject either to deliberate or unconscious falsification. While we believe that our measures represent a forward step in subtlety in contrast to the blatant and direct paper and pencil inventory, the recent upsurge of literature in the area of response sets (Jackson and Messick, 1958; Berg, 1959; Couch and Keniston, 1960) and social desirability (Edwards, 1953, 1957, 1959; Cowen, 1961), points toward the possibility that verbal responses to test items may be mediated by formal response characteristics intrinsic to the respondent (i.e. desire to make a good record, conservatism etc.), and independent of the specific item content.

This issue is particularly relevant to our self-concept measures, since subsequent to the start of the present investigation, there has been a reasonable amount of evidence presented to suggest that social desirability factors may be operating so as to affect responses on instruments of this type. Thus Edwards (1955), Kenny (1956), Kogan, Quinn, Ax and Ripley (1957), and Wiener, Blumberg, Segman and Cooper (1959) have demonstrated that endorsement of types of items typically included in Q sort pools correlates very highly with the independently rated social desirability of these same items. Similarly Cowen and Tongas (1959) have shown, using a fairly popular self-concept inventory in its normal administrative form, that there is an extremely high degree of relationship between level of acceptance of personality descriptive traits as part of one's self-concept or ideal self and the independently established social desirability of values of those same traits. On the other hand the D-score between self-concept and ideal self, was in this same study, not found to correlate with item social desirability. Most recently Cowen, Budin, Wolitzky and Stiller (1960) were, however, able to demonstrate that deliberate maximization of the perceivability of social desirability of the constituent items of a Q sort pool, led to significantly smaller D-scores than when such perceptual gradations were minimized. It thus seems evident that self-concept or ideal self ratings can be influenced by the social desirability properties of the items being rated; however this influence tends to be substantially less when a D-score criterion is used.

As applied to the present investigation, what we are saying, in effect, is that responses on the Self-Ideal Sort could have been influenced by the social desirability stereotypes of the adolescent respondents, and in that sense the *over-all* validity of the instrument would have been reduced. Examination of the actual distribution of obtained scores, demonstrates fairly quickly where this is most likely to have taken place. Thus on the ideal self sort, where the potential range of scores goes from 60-150, the actual or observed range was from 60-67. Quite clearly, the ideal self rankings represent little more than a uniform conception of what is socially desirable. On the other hand, the self-concept scores range from 60, the theoretical minimum, to 133. In that sense they bracket the major portion of the continuum and indicate at the very least that a good number of *S*s were not primarily governed by their conceptions of social desirability in their response patterns.

On the basis of these facts, we cannot rule out the possible operation of social desirability factors on this measure or on the SPT-B. In the latter case in the absence of relevant research data, any such judgment would have to be inferential.

It should be emphasized that the net effect of any spurious social desirability contaminations should have been common to all participating groups. There is no *à priori* basis for assuming that visually disabled *S*s were either more or less prone to respond in this way than were sighted *S*s. Hence, as suggested above, the impact of this variable would be toward a reduction in the validity of the given criterion measure for all groups, but not differentially so.

In a more reassuring vein, we can point to the fact that although social desirability factors may well have been operating in the present study, there is reason to believe that such factors effect less seriously the meaning of a D-score type measure (Cowen and Tongas, 1959) such as the one employed here, than they do the direct response to the falsification prone personality inventory (Edwards, 1953, 1957; Fordyce, 1956; Hanley, 1956; Rosen, 1956). Since we are not evaluating the results of this study *in vacuo,* we may observe that in earlier investigations, notably those utilizing superficial paper and pencil inventories, the criterion indices of adjustment used were doubtless considerably more prone to social desirability influences than were the measures used in the present study. The fact that many of these investigators report findings indicating poorer adjustment for visually disabled *S*s in comparison to sighted ones (e.g. Morgan, 1944; Hubbard, 1945; Brieland, 1950), suggests that it is possible to demonstrate ostensible group differences, even when social desirability factors are in evident operation. Finally, an anchoring datum of some significance in the present study is the significant correlation between the internal self-concept measures of adjustment and the completely independent and structurally dissimilar external estimates of adjustment derived from teachers' ratings for the C and E_2 groups. This suggests that despite the potential operation of social desirability on the self-concept measures, they are reflecting something in common with an adjustment index which is totally external to the person being judged.

In sum, we neither can nor wish to rule out the possibility that our adjustment indices have been affected by the social desirability stereotypes of our respondents. We do however believe that whatever its effects, this has tended to be a constant across our three groups. Our preoccupation with this problem is heightened to a considerable extent by what we consider to be its implications for future research. Concretely, with respect to the types of instruments used, it is our belief that requisite steps should be taken to restrict the operation of social desirability determinants on self-response measures. Some methods by which this objective may be achieved, e.g. the use of forced choice options with social desirability factors controlled, or restriction of the social desirability range, have been discussed more fully elsewhere (Edwards and Horst, 1953; Edwards, 1954; Goodling and Guthrie, 1956; Cowen et al., 1960). More generally, we would also argue for a broader base for the evaluation of adjustment, one which transcends the limitations inherent in verbal subjective report techniques. In this sense actual behavioral observations and criteria, as well as physiological indices of adjustment, may be regarded as potentially useful supplements to a comprehensive program for the evaluation of adjustment.

While we have presented the foregoing arguments in order to develop a framework of limitations within which our generalizations may be construed, they are not intended to alter either the basic content or spirit of our viewpoint. The simple fact remains that our visually disabled *S*s appear to be every bit as well adjusted as their sighted peers. Despite our earlier expression of belief that such should be assumed to be the case until the reverse has been demonstrated, we share with Barker et al. (1953) the view that it is important to try to identify factors working in the direction of positive adjustment for visually disabled individuals. Because of the way in which the over-all research was conducted, it is possible to look back and review our thinking at several stages. It may be recalled that the first step in data collection and analysis included only the E_1 and C groups. When it became apparent that there were to be no adjustment differences between these two groups, we began to wonder whether the lack of differences might be due to selective factors, relevant to adjustment, which determined whether or not a visually disabled child remained in the parental home or was sent to a residential school. This line of speculation is succintly summarized by Verrillo:

> It may be that these (E_1) are better adjusted youngsters by virtue of being kept at home and/or as a result of successful competition with their sighted peers. Is it possible that at earlier ages they were better adjusted and so kept at home while their less well adjusted visually impaired peers were sent to institutions because they constituted a "problem" in the home? (1958, p. 81)

Elsewhere Morgan (1944) has argued that visually impaired youngsters who became problems in the home or school tended to be referred to residential centers. It was this possible bias in selection, in fact, which we felt restricted interpretation of the original set of data, and which motivated the subsequent study with residential visually disabled youngsters. The findings deriving from this second study provide an answer to this question, one quite different, however, from our earlier speculations. By and large the residential youngsters appear to be quite comparable in adjustment to both the E_1 and C samples. Thus the possibility of selective placement governed by emotional and personality differences appears to be ruled out. This being the case, we must look more carefully at alternative explanations which are potentially applicable to both disability groups. The kernel of one such explanation may be contained in the writings of Meng (1938) who has emphasized the so-called positive aspects of disability including certain types of narcissistic gratifications inherent in the fact of being physically different, attention, approval for achievements etc. It is conceivable, particularly for our E_1 *S*s that positive gratifications contributing to good adjustment have derived from just such sources, particularly within the framework of the family situation. One datum which buttresses these notions is the fact that our E_1 *S*s perceived significantly less rejection than did the Cs (a datum corroborating, in substance, an earlier similar finding by Sommers (1944).

A second possible explanation (Verrillo, 1958) revolves around the vicissitudes of the particular age level we have chosen to study (i.e., adolescence). Here it might be reasoned that the visual disability may provide a certain amount of sheltering or cushioning from the anxieties attendent upon the problems of growing up, so that these problems are experienced in less intense form (particularly in the residential setting) or else are not encountered until somewhat later than might normally be the case. The preceding comments are certainly speculative in nature, and represent no more than "free associations" in an area of considerable importance, and about which we presently have very little knowledge. Hopefully it will be more appropriately illuminated by subsequent research.

6. RESIDENTIAL PLACEMENT

We should also like to make several brief comments on those aspects of our findings with respect to the area of adjustment, which bear on the controversies surrounding residential school placement, discussed earlier in Chapter 2. Once again the pertinent datum from which our discussion departs is the finding that residential visually disabled adolescents seem, in the main, to approximate very closely their home-living visually disabled peers as well as their sighted peers in terms of adjustment. This finding sharply contradicts those of a number of earlier studies in which residential youngsters were found to be less well-adjusted than sighted controls (Griffis, 1935; Morgan, 1944; Hubbard, 1945; Hastings, 1947; Brieland, 1950).

Doubtless a good portion of this discrepancy is accounted for by marked variations in the types of controls, assessment procedures and methodologies employed in the present study.

It is conceivable that these findings could be qualified by some selective factor involved in the choice of our residential schools as sources of subjects. Since we would hope that our findings would have some generalized applicability to residential schools, the problem we are raising here is essentially one of representative and systematic design (Hammond, 1954). For although our N with respect to residential school *S*s is 56, these *S*s have not been drawn from 56 different schools, but rather from four. Although four schools represents a relatively small number, we are, in retrospect, pleased that our study was spread this far, since with an N of one school, generalization potential would have been markedly reduced. In the present case two of the schools were state operated and two were privately operated. Although three of the four schools were located in metropolitan areas, their students are drawn from a wide radius including both rural and urban areas. Geographically they bracket a range from New England to the Midwest. Thus while our sample of schools may not be a random sample of all residential schools in America, we would certainly argue strongly that they constitute a good sampling of schools in the northeastern quadrant of the United States. With these considerations in mind we are prepared to take the position that the cross-group results on adjustment may not be dismissed on the basis of selective sampling of our E_2 residential centers.

Upon this base we may return to the issue raised in Chapter 2, regarding the relative merits of residential vs. public school educational facilities for blind children. Although impact upon the child's adjustment is certainly not the sole criterion on which such a judgment should be based, it is undoubtedly an important one. Our own data suggest strongly that the alleged deleterious effects upon adjustment and personality development for the residentially placed youngster (Mikell, 1953; Petrucci, 1953) are not to be found. We therefore conclude that inferences about effects of type of school placement on adjustment (on a mass rather than individual basis) are not, in the light of the present data, an appropriate basis for decisions about assignment to public day school as opposed to residential educational facilities. In this sense, our research offers at least indirect support for the soundness of the policy statement by the

American Foundation for the Blind appearing in the *Pine Brook Report* (1957). Here the position is taken that both residential schools and public educational facilities, either with resource or itinerant teaching, are desirable and in fact essential: ". . . each blind child should be educated according to his individual needs and . . . not for a long, long, time—if ever—will any of the three types of education listed above eliminate the other two" (1957, p. 53). Our own work offers little basis for the important determination of which type of facility should be considered best for whom. Lowenfeld (1959) after recognizing the importance of both programs, goes on to suggest that residential facilities may be especially well suited for four groups: (1) children for whom local services are not available; (2) children with undesirable family situations; (3) children who are poor prospects for public educational facilities and (4) children whose parents have strong preferences for residential education.

7. MULTIPLE PREDICTION FORMULA FOR ADJUSTMENT

A final incidental, but rather tantalizing, aspect of our findings with respect to adjustment is the development of a multiple prediction formula for adjustment in the adolescent. This was a frankly empirical venture, which, like the ill-starred item analysis procedure, was approached with hope and vigor, though not great expectations. Our unvarnished empiricism here was tempered only by the knowledge that any formula so developed would have to withstand the rigors of two independent cross validations. Unlike the item analysis search however, in this instance we met with some success, in the sense of being able to develop a prediction equation which yielded a multiple *r* meeting the following basic criteria: (a) it was quite high in the absolute sense; (b) it was substantially higher than any of the constituent zero-order *r*s and (c) it did not dissipate from shrinkage effects when applied to two samples, independent of the one on which it was developed.

The adjustment criterion toward which prediction was made was the self-concept adjustment score (1); the reasons for the selection of this particular measure have been presented in detail in the preceding chapter. Essentially, there are four variables which are doing the job of predicting, though each of these does not contribute equally in the process. Nevertheless, to the extent that one is willing to accept the self-concept adjustment score as a meaningful index of adjustment, it may now be said that the well-adjusted child is likely to be one who shows the following combination of attributes: 1) he perceives a high degree of parental acceptance on the SPT-B (6); 2) his mother sees him as well adjusted as indicated by a high self-concept adjustment score on the mother's predicted self-concept measure (7); 3) there is little difference between the way he sees himself and the way his mother sees the average or typical adolescent (21); and 4) he has a relatively high socioeconomic status (14).

Although it would hardly be fair to suggest that we anticipated this particular combination of predictors beforehand, by the same token it is not difficult to argue that they appear to make sense and to fall into a reasonably consistent pattern, after the fact. That perceived acceptance by the child is a good predictor is most understandable in the light of the very substantial prior emphasis (Combs and Snygg, 1959; Burchinal, 1958) on the phenomenological determinants of adjustment. Quite apart from the actual or objective manner by which an observer might describe parental attitudes, the way in which the child perceives these attitudes is likely to be a most important contributor to his adjustment. Thus it follows that the child who sees himself as being basically accepted by his parents should be well on the road to a reasonably good adjustment. Similarly, it seems plausible that where the mother, in her prediction of the child's responses, selects a pattern of choices which reflects good adjustment, there may well be implicit in such ratings a positiveness of regard, confidence, or identification, suggestive of a reasonably healthy parent-child relationship, which should be an important contributor to good adjustment in the child. This same type of logic may also be applied to the mother whose ratings of the average adolescent are not grossly out of harmony with the manner in which the child regards himself. And finally, though high socioeconomic status is not an end in itself, there is considerable literature, some cited earlier in this discussion, to suggest that the foregoing positive factors in child and parent perception are more likely to be found in relatively high SES as opposed to relatively low SES families (Anastasi, 1958). In that sense the fact that this variable has turned up in our prediction equation need not be surprising.

Of particular interest is the fact that the multiple prediction equations are so highly similar for the two experimental groups and the control group. In fact, although the differences between groups are certainly not significant, the highest multiple r is found in the E_1 group, followed by E_2 and then C. Thus at still another level we have an interesting demonstration of the phenomenon of overlap or cross-group comparability, which has thus far been a prominent, indeed overriding, feature of the adjustment data.

Another noteworthy facet of the multiple prediction formula is the degree of independence, both statistically as well as logically, of the constituent predictors. One of the measures involves the perceptions of the child on a projective measure, a second involves the mother's perceptions of the child's frame of reference, a third is based on a discrepancy between mother's perception and the child's self-perception, while the fourth is a demographic control variable.

We are certainly quite pleased with the results of this preliminary venture toward the construction of a prediction formula for adjustment. Quite apart from its logical and theoretical import, about which we have already commented, it is the type of development which may have significant practical implications. For if we are to find that these results hold up (and there appears to be some basis for believing this will be the case from our validity generalization applications) and perhaps can be improved, we will have taken an important step toward the development of a type of screening battery which may have effective usage both for visually disabled and sighted adolescents, in many situations (e.g. educational, clinical, research etc.) where it is important to be able to make meaningful and reliable beforehand assessments about the nature of adjustment. Quite obviously the major drawback to this approach resides in the fallibilities and limitations of the criterion index of adjustment. Having been reinforced, however, by the nature of our findings we would consider it highly desirable to attempt to extend this type of approach, using other criterion indices of adjustment, particularly behavioral ones, toward which practical prediction must so often be oriented.

B. ATTITUDES AND ADJUSTMENT

A second pivotal issue, also raised at the very outset of the volume, had to do with parental attitudes and adjustment. Here the specific questions which guided us included: "How do the parents of . . . disabled and sighted *S*s compare with regard to their attitudes toward child rearing, blindness, and minorities?" and "What is the relationship between measures of parental attitude and those of adolescent adjustment in visually disabled and sighted groups, and are there differences in such relationships between groups?" On the basis of a review of prior literature in this area predominantly with nonhandicapped children, it seemed plausible to entertain the hypothesis that generally warm and accepting parental attitudes should relate to good adjustment in the child, whereas hostile, dominant, rejecting attitudes should be related to poorer adjustment. In like manner it was anticipated that authoritarian, antiminority, antiblindness attitudes in parents should also relate to poor adjustment in the child.

The attitude measures differed substantially from the adjustment indices, in that a good number of the former were ready-made, in contrast to the latter which were virtually constructed from scratch during the methodological stage which preceded the content studies. Our attitude findings derive from two instruments containing a total of eleven subscales. The first of these, the Master Scale, includes seven subscales, four of which have to do with child rearing attitudes of dominance, overprotection, rejection, and acceptance, while the other three deal with authoritarian, antiminority, and antiblindness attitudes. With the exception of the last of these seven measures all were taken over from the literature. Moreover each of the constituent subscales is known to have at least moderate, and more often high, reliability. The remaining four measures are obtained from the SPT-A which is based on the same pictorial stimuli as the SPT-B for children's perception, except that in this case different response options reflecting the categories of parental dominance, overprotection, rejection and acceptance were used. The reliability of these latter measures was spotty and varied for the three major groups, the median of the twelve reliabilities (for four scales and three groups) being around .40. In three instances—dominance and overprotection for C and dominance for E_2—the reliability was so low that the scale did not seem to be usable. Nevertheless our feeling was that these two very different sorts of attitude measures might compliment each other in the over-all appraisal which we were seeking.

We may first concern ourselves with the extent to which the attitude scales seem to be measuring something in common. The seven subscales from the Master Scale produce a matrix of 21 intercorrelations for each group, for a total of 63. All but five of these correlations are significant; their median is just below .60. Clearly then the subscales of the Master Scale appear to be reflecting something in common. The four SPT-A measures yield six intercorrelations per group for a total of 18. Only ten of these are significant and their median is only .33. These scales intercorrelate considerably less well than do the Master subscales; doubtless part of this is attributable to the complete lack of reliability of the three subscales noted above. Of this cluster of 18 correlations, only the rejection-acceptance one is high for all three groups. Finally there are 28 correlations per group for a total of 84 across Master and SPT-A subscales. Twenty-seven of these are significant, 15 in the E_2 group. Their over-all median is around .16. While this figure is lowered by the three nonreliable SPT-A measures (accounting for 21 of 21 nonsignificant correlations) it cannot mask the lack of cross-scale communality. Except perhaps for the SPT-A acceptance scale, we must conclude that the over-all Master and SPT-A scales, despite their common label of attitude measures, do not basically reflect the same things.

It is perhaps worthwhile to call attention to one specific aspect of the cross-attitude scale comparisons, i.e., the relationship between the antiblindness scale, developed for this study, and the two other indices of sociopsychological attitude, the AM and F scales. In a prior investigation (Cowen et al., 1958) low positive correlations were found among these measures, supporting the theoretical view (Barker, 1948; Chevigny and Braverman, 1950) that visually disabled individuals might be conceptualized as having a psychological position comparable to those held by minority groups in our culture. The present data provide an opportunity to re-examine the relationship for parents of normal and visually disabled youngsters.

Interestingly, for the parents of the two disability groups there was no significant correlation between antiblindness and antiminority attitudes. However, for the control mothers there was a strong positive correlation (.63) between these two variables. What is suggested by these findings, is that for the "disinvolved observer," as represented by the *S*s in our earlier study (Cowen et al., 1958) and the present control group mothers, there is a tendency for fused perception to take place, resulting in a common core of attitudes toward minority members and visually disabled. However, for the mothers of the visually disabled, who presumably have more of a first-hand acquaintanceship and identification with the problems of visual disability, such a fusion is not found, and directionally independent attitudinal judgments are made for the visually disabled as opposed to minority groups.

For all three groups, however, there was a positive relationship between F scale and antiblindness. Apparently the greater the tendency to accept arbitrary authority, to dichotomize into sharp polarities, and to be intolerant of ambiguity, the less capable is the individual of manifesting positive, understanding and acceptant attitudes toward the blind.

1. COMPARISON OF MOTHERS

Direct contrast of the responses of the mothers in the three groups on the 11 attitude subscales yields a basically negative pattern of results. In the first place there are no significant differences whatsoever between the E_1 and C mothers; in fact a subscale by subscale analysis of these two groups indicates that the two sets of means follow a remarkably parallel course. Such, however, is not the case entirely for the E_2 mothers, who are found to have significantly lower overprotective attitudes than the E_1 mothers, significantly less rejecting attitudes than the C mothers, and significantly more positive attitudes toward blindness than both E_1 and C mothers. Moreover, a detailed subscale by subscale analysis of group means indicates that the mean for the E_2 mothers on *every one* of the eleven attitude subscales in comparison both to the E_1 and C mothers is always in the direction of a *more favorable attitude*. Because of the nonindependence of these 11 subscales, a precise estimate of the probability of such an occurrence cannot be made.[1] Nevertheless it seems quite clear that the publicly expressed attitudes of the E_2 mothers are substantially more favorable than those of either of the other groups. Taken at face value this datum is a powerful contraindicant for the belief that unfavorable maternal attitudes constitute a major factor in the determination of which children are to be placed in residential educational facilities. On the other hand we are already aware of the fact that our several subject groups do not differ with respect to adjustment. Hence, the ostensibly more favorable attitudes of the E_2 mothers have not been translated into better adjustment for the E_2 children. Because of this practical consideration, it may be appropriate to raise the question of whether the observed attitude difference represents a true difference in attitude, as opposed to a difference in formal test response characteristics or defensive patterns among maternal groups. Such a possibility may be highlighted by the fact that the E_2 mothers are significantly more positive than both other mother groups on the Attitudes to Blindness Scale.

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[1] This probability on the basis of scale independence would be obtained by expanding the binomial $(\frac{1}{2} + \frac{1}{2})^{11}$ which in turn yields a *p* value of 1 in 2048 for each group.

2. MATERNAL ATTITUDES AND CHILDREN'S ADJUSTMENT

Our concern with the various measures of maternal attitude was less in terms of absolute group comparison on these measures and more with respect to their usefulness as predictors of adjustment, either in general or differentially across subject groups. Based on 11 attitude scales and seven adjustment measures, we were able to report a total of 77 attitude-adjustment correlations for each of the three major groups. In the main, these correlations were extremely low and nonsignificant particularly so for the E_1 and C groups, where the total number of significant *r*s out of 77 was five in each case. The median *r* for these two groups was .08 and .12 respectively. It is eminently clear that insofar as these two groups are concerned there is nothing in the observed relationships between maternal attitude measures and child adjustment measures which cannot be readily explained on the basis of chance variation. For the E_2 group however, the situation is somewhat different. In the first place, there are 11 significant *r*s out of 77 (this might more properly be viewed as 10 significant *r*s out of 50, since 27 of the correlations, involving the two unreliable adjustment measures and the one unreliable attitude measure with this group, are essentially meaningless). The median *r* for these 50 correlations for the E_2 group is .19.

While the total number of significant attitude-adjustment correlations in the E_2 group is low, as is the over-all magnitude of the observed *r*s, those which are significant seem to follow a consistent pattern. Perhaps the most intriguing element of this pattern is the fact that the California F scale correlates significantly with four of the adjustment indices—the two self-concept measures, teachers' ratings and perceived rejection. Notwithstanding the fact that the significant correlations are relatively low, the basic relationship appears to be a meaningful one since it cuts across all three classes of adjustment measures. Thus the more authoritarian the mother's attitude, the less well adjusted does the child appear to be. It is conceivable that this finding reflects directly the deleterious and restrictive effects of authoritarian parental attitude upon personality development for the E_2 children. However, since there was only a .26 correlation between antiblindness and F scale scores for this group of mothers, it is possible to speculate about the possibility of negative attitudes to blindness having been expressed in part, through the structurally similar but in the present setting more subtle F scale. In any case the relationship between maternal authoritarianism and poor adjustment in the child is quite consistent with several earlier findings including the following: (1) Tuttman's demonstration (1955) for a postpoliomyelitic group that the children of authoritarian parents, as measured by parental F scale scores, were both more poorly adjusted and less able to accept their disability than were an otherwise comparable group of postpolio youngsters of nonauthoritarian parents; (2) Kates and Diab's observation (1955) that there is an association between high F scale scores and attitudes of parents of problem children; and (3) the demonstration by Dworin and Wyant (1957) that mothers of schizophrenic patients were significantly higher with respect to F scale scores than were the mothers of an otherwise comparable but nonschizophrenic group. The relationship between strong antiminority attitudes in the E_2 mothers and high perceived rejection in the child fits quite consistently into this same pattern.

The remaining significant maternal attitude and child adjustment correlations also make up an internally consistent configuration. Thus overprotective attitudes in the mother, whether such are measured by the Master Scale or the SPT-A, are related to low perceived acceptance in the child. High SPT-A overprotection also relates to high perceived rejection by the child. And finally, maternal acceptance on the Master Scale relates to good adjustment on the two self-concept measures. It is of some interest to note that each of the significant correlations is in the anticipated direction (i.e., the more favorable the maternal attitude the better is the adjustment of the child).

In sum then, the anticipated relationships between positive maternal attitudes and good adjustment in the child, by and large, have failed to materialize throughout the study; it is only in the case of the E_2 group that a consistent pattern, and that an extremely limited one, begins to emerge.

Viewed retrospectively, there can be little doubt that the basically negative findings with respect to the hypothesized attitude-adjustment relationships at once constitute the most disappointing and most perplexing aspect of our investigation. Considerable time and effort was invested in our review chapter in developing the thesis that to expect relationships between these two classes of variables was not only plausible theoretically, but also defensible in the light of prior empirical evidence. While the bulk of this argument derived from earlier work with nondisabled *S*s, the little data available from the field of visual disability (e.g., Sommers, 1944) was certainly consistent with it. In fact, it would be fair to say that our preoccupation with maternal attitude measures when the study was about to begin, was governed less by a doubt that they might not relate to adjustment in the child, and more by an interest in how such relationships were likely to manifest themselves in cross-group comparisons.

The only inconsistency in this basically bleak picture is the small nexus of significant and directionally appropriate attitude-adjustment correlations which have emerged from our analysis of the E_2 group data. We have already presented the case for a meaningful and logically consistent interpretation of these findings.

There are, however, several considerations which would point toward an alternative explanation (i.e. that the attitude-adjustment correlations for E_2 do not represent a stable set of relationships). One amongst these is the fact that *z* transformations failed to indicate significant differences other than what could be explained by chance between E_2 and C or E_2 and E_1 in the cross-group comparisons of maternal attitude vs. child adjustment correlations. A second concern derives from our analysis of the effects of the variable of mothers' education in the E_2 group. This latter variable, consistent with the earlier findings of Zuckerman et al. (1958) shows a significant pattern of zero-order correlations with maternal attitude variables, notably those from the Master Scale. When, by use of partial correlations, the effects of mothers' education are removed from the attitude-adjustment correlations, eight of the 11 significant *r*s drop out. The probability is thus considerable that the attitude-adjustment relationships observed in the E_2 group are in part spuriously mediated by the variable of mothers' education. Summarily then, it is extremely difficult to defend the position that there are genuine attitude-adjustment relationships anywhere in our study. While we still feel that the E_2 relationships are suggestive, we view these findings more as a basis for further research than as unequivocally confirmed fact.

As a consequence of the foregoing line of reasoning we are now confronted by a most troublesome question, namely, why are our negative findings in this segment of the research inconsistent with prior data (e.g. Shoben, 1949; Mark, 1953; Freeman and Grayson, 1955; Abbe, 1958; Shephard and Guthrie, 1959). We do not feel that we have a totally satisfactory answer to this question. Solely on the basis of the present findings, the most appropriate position would be that there are no relationships between parental attitudes and child adjustment. Certainly, in terms of our own measurement of these variables, as well as our findings, the statement is fundamentally defensible for this study. Yet to generalize on this base by concluding, for example, that investigators within the area of disability would be barking up the wrong tree by continuing to explore parental attitudes as potential determinants of child adjustment, goes so much against the grain of clinical observation, psychological theory, and prior empirical knowledge, that it cannot be done without a somewhat more painstaking analysis of some possible determinants of our negative findings in this area.

In seeking a resolution for this dilemma, we have turned first to a re-examination of the soundness of the underlying hypothesis. Were we correctly interpreting the preponderant weight of available evidence in anticipating a relationship between parental attitudes and child adjustment? The appearance of a new and fairly detailed review of work in this area (Hurlock, 1956, pp. 498-513) subsequent to the time our study was conceptualized provides an opportunity for objective hindsight. After considering some 100 contributions, from theory as well as from research, this investigator comes unequivocally to the conclusion that parental attitudes are of major importance with respect to personality development and as a determinant of adjustment level in the child. Illustratively, we may cite the following excerpts from her summary: "Children who become successful as they grow older are almost always those who have come from homes where parental attitudes have been favorable. . . . Unsuccessful children are, by contrast, usually a product of unfavorable parental attitudes" (Hurlock, 1956, p. 512). There is every reason to believe then that our basic hypothesis was an entirely tenable one, and that we will not resolve the empirical discrepancy, by second guessing ourselves in that respect.

A second possible sore spot may inhere in the particular methodology we have chosen for the assessment of parental attitude—i.e., the questionnaire. This type of measuring instrument depends heavily on the types of verbal behavior that a parent is willing to express publicly. It is but one of a variety of techniques, including others such as interview, observation, projective study, which has in the past been used in the appraisal of parental attitude. When the research was about to get underway, we were faced with a choice as to what type of criterion instruments might best be used to measure parental attitude. We were quite aware of the potential limitations of the questionnaire, particularly in view of the fact that since it rests squarely upon what the parent is willing to admit publicly, it is certainly prone to falsification, covering up, and the insidious intrusion of social desirability stereotypes. On the other hand it has major virtues as well, including its speed and ease of administration, and the fact that it readily yields manageable, objective scores and thus represents perhaps the simplest and easiest-to-handle technique from the point of view of tabulation and statistical analysis. Since our entire project was oriented toward techniques which were amenable to crisp objective analysis, this was certainly an important consideration. In the end, notwithstanding our reservations we were persuaded to use the attitude questionnaire technique, on what were fundamentally empirical grounds, i.e. that results from such instruments had been shown in earlier studies to be adequate predictors to a variety of criteria of child adjustment. Notwithstanding the fact that there had been occasional negative results studies (i.e. studies in which parental attitude responses did not predict to child adjustment variables), it appeared to us that the "hits" considerably outweighted the "misses."

Our best present hunch, one which regrettably is not subject to verification on the basis of the present data, is that the preceding line of reasoning governing the selection of the questionnaire as the criterion for parental attitude was premature. As we now re-examine the situation we would suggest that a mere toting up of positive results studies as opposed to negative results studies, without reference to the specific content of the studies, the subject groups included etc., is a dubious procedure. Looking primarily at studies built around parent attitude questionnaires, it is possible to make a somewhat higher order abstraction with respect to the direction of their findings. A good majority of the studies which report relationships between parent attitudes measured by questionnaires and child adjustment, have predicated their measurement of the latter variable on a criterion of maladjustment which reflects marked deviance in the child. Thus Shoben's data (1949) show differences in attitudes between parents of problem children and juvenile offenders as opposed to parents of normals. Abbe (1958) is able to discriminate between attitudes of parents of normals as opposed to parents of neurotic children, or children with primary behavior disorders; Mark (1953), Freeman and Grayson (1955), and Shephard and Guthrie (1959) separate with respect to attitude, the parents of schizophrenic as opposed to nonschizophrenic children; Klebanoff (1959) finds attitude differences between parents of schizophrenic, brain-injured and mentally retarded children collectively in comparison to parents of normals, and Madoff (1959) differentiates the mothers of delinquent adolescents attitudinally, in comparison to mothers of normal adolescents. Every one of these studies has in common the fact of including at least one group of children who, by virtue of referral to a clinic for help, apprehension for antisocial behavior, or institutionalization, has already been publicly identified as maladjusted or atypical.

In this sense we may identify a substantial structural difference between the requirements for instrument sensitivity in the foregoing studies as opposed to our own. The task in the former case is to discriminate between parental attitudes for a normal group in comparison to one which by definition and selection is abnormal or at least atypical. Presumably discrimination in such a setting is relatively easier. But this certainly was not the case in our own study where the task was one of seeking out shades of differentiation in what were essentially three normal groups. The amount of instrument sensitivity required for this latter type of discrimination is much greater; accordingly, problems of falsification proneness of the instrument are magnified. Whereas with pathological or deviant groups the test instrument may be capable of tolerating a reasonable amount of imperfection and error, this is less likely to be true when working within a more restricted adjustment range (as has been the case in our own study) where greater instrument sensitivity and validity is doubtless required. We cannot contravert the prior empirical data and positive findings from earlier studies. We do, however, believe it reasonable to point up what now appears to us to be a major difference between our own study and some of its predecessors which used similar methods, and to argue that a specific instrument (e.g. the Shoben or PARI) or type of instrument (e.g. parental attitude questionnaire), which may be reasonably valid for the requirements of gross and crude differentiation, may be of doubtful validity when a more sensitive yardstick is in order.

In support of this admittedly *post hoc* line of reasoning, we would marshal the findings of a recent study by Burchinal (1958). This investigator studied the relationships between parent attitudes, as measured by the Shoben instrument and the Porter parental acceptance scale (Porter, 1954) and several indices of child adjustment for a group of normal fifth grade children. In the sense of working with a homogeneous group of normal children within a restricted and finite adjustment range, this study was quite similar to our own. Likewise it rested upon the use of correlations between parent attitude variables and child adjustment variables, rather than seeking to discriminate between two groups, one of which was deviant. Burchinal reports: "There was virtually no measurable relationship between the parental attitudes . . . and the estimates of the personality adjustment characteristics of the children" (1958, p. 78). These findings are entirely consistent with those deriving from our own investigation. In his discussion Burchinal points out the need to work less with verbal report of attitude by the parent, and more with the phenomenological impact of such attitude as reflected by the child's perception of the parent's attitude. This type of measure is well represented in the present study through the four SPT-B child perception scales. From among those, we have already noted that the perceived rejection and perceived acceptance measures do, in fact, correlate with other indices of adjustment. Burchinal concludes that ". . . due to the limitations of the instruments taken singly or jointly . . . the psychological relationships which are strongly assumed to exist between parents' attitudes and behaviors toward children and their consequent influence upon the children's personality development, were not measured" (1958, p. 77). On the basis of his findings he proposes that measurable relationships between parent attitude and child adjustment will not be found using questionnaire approaches as the method for assessing parent attitude. This point of view is heavily underscored in a recent careful review of the literature in this area (Thompson, 1959). Although we are in essential agreement with the general conclusions of Burchinal and Thompson, we would qualify their position by emphasizing the problem of applicability to the so-called normal range, leaving room for the possibility that parent attitude measurements by means of the questionnaire may continue to be useful in instances where grosser discriminations are required.

Our discussion of this enigmatic problem would not be complete without drawing attention to several additional facts. One of these is to recall that the hypothesis of relationships between parent attitude and child adjustment is not dependent solely on studies utilizing questionnaire measurement of the former variable, for its confirmation or negation. Thus Baldwin et al. (1945), Sears et al. (1957), to cite but two examples, working within the so-called normal range, do report significant relationships between parent attitude variables and child adjustment variables. These studies, however, were predicated upon home visit and observation or interview for their assessments of parent attitude. Such techniques are to be regarded as deeper, more probing and less falsification prone than the parent attitude questionnaire. Moreover, even within the field of visual disability, where it has been possible to demonstrate relationships between parent attitude measures and child adjustment variables (Sommers, 1944; Barry and Marshall, 1953), the assessment of the former variables has been based on the use of depth techniques, and has gotten away from the public statement of the parent as a criterion. Notwithstanding the methodological flaws of these latter studies, they seem in general, to point the way to what is very likely to be a more fruitful approach to this problem. By way of conclusion then, it is our present view that continued exploration of the effects of parental attitudes on the adjustment of visually disabled youngsters is a desirable objective for future research. However, our own disappointments and failures point to the importance of going beyond the publicly expressed attitudes of the parent, and of basing future work on more searching, deeper and more valid procedures for attitude measurement.

C. UNDERSTANDING AND ADJUSTMENT

The third and last of the basic problems underlying the over-all investigation is that of the relationship between parental understanding and child adjustment. Here again the guiding questions were explicitly stated at the very beginning of the research, as follows: "How do parents of visually disabled and sighted adolescents compare with respect to their ability to understand their children (i.e., their ability to predict their children's verbal responses to several types of test stimuli)?" and, "Within a given subject group how do these measures of understanding relate to indices of adjustment, and are there differences in these relationships between subject groups?" Although, to our knowledge, there has been virtually no work done in this area with visually disabled youngsters, there appeared to be an ample basis from the general psychological literature with nondisabled *S*s to warrant the supposition that the ability of the parent to understand the child and to be able to predict his behavior should co-occur with indicants of good adjustment in the child.

Basically, in order to test our hypothesis, we have used five measures of maternal understanding. Each of these is based on a discrepancy score (D-score) between the child's responses on a given test and the mother's prediction of the child's response. One such D-score is derived from the Self-Ideal Sort based on the child's sort for self-concept and the mother's prediction of the child's response. The remaining four understanding indices derive from the four SPT-B dimensions of pity, overprotection, rejection and acceptance. For each of these dimensions, responses were available for the child's perception as well as mother's prediction of the child's perception. Although not used in the formal testing of hypotheses in this area, several additional measures have emerged in the course of our analysis of the data, which seem structurally or logically related to the measures of understanding, and which may throw additional light upon our interpretation of our findings. These measures will be discussed in a later section in which empirical findings are considered.

Reliability estimates for the self-concept understanding measure were not obtained separately in this study because of the history of high reliability for this type of measure. Reliabilities for the four SPT-B scales used as measures of child perception have been discussed earlier. The median reliability for the three mother groups on the same four scales, now being used as measures of prediction was .61. However the overprotection scale proved to be unreliable for the E_1 and E_2 mothers and extremely low in reliability for the C mothers. Accordingly we shall consider the understanding measures based on the SPT-B O scale for all three groups to be unsatisfactory. In addition the SPT-B pity measure of understanding, is not a usable measure for the E_2 group because of the complete absence of reliability in the children's responses.

Once again we shall concern ourselves first with the extent to which these five measures of understanding were measuring the same or closely related phenomena. For each group they yield a matrix of ten intercorrelations. Eight of these ten are significant for E_1; the comparable figures for C and E_2 are two and six. The median understanding intercorrelations for these groups are .32, .21, and .28 respectively. For reasons which we do not clearly understand, the intercorrelational picture varies somewhat across subgroups. Thus for the two visual disability groups there is in general a significant set of low positive intercorrelations while for the C group, it is questionable whether the cross-scale relationships exceed chance. Only in a limited way then, can it be said that these five estimates of understanding are measuring something in common.

1. COMPARISONS OF MOTHERS

Comparison of maternal understanding scores for each of the five basic measures employed in the present study, indicates that the group means are very much alike. Of the total of 15 *t* ratios comparing the significance of the differences of group means, only one reliable difference emerges. E_2 mothers show significantly less understanding than do E_1 mothers as measured by the SPT-B acceptance scale. We are inclined to place very little weight on this finding, since one such significant difference out of 15 "runs" may be readily explained as a chance occurrence. We are much more impressed by cross-group similarities, and are inclined to conclude that insofar as these five indices are concerned, there are no significant differences in understanding for the three mother groups. In this sense, the present data run a course which closely parallels the findings when comparing the over-all groups on measures of adjustment.

2. MATERNAL UNDERSTANDING AND CHILD ADJUSTMENT

Once again our prime concern with the understanding measures, and, in fact, their very *raison d'être* was in their potential usefulness as predictors of adjustment, for any single group or differentially across groups. In this instance the rewards proved to be considerably more substantial than was so in the case of the hoped for attitude-adjustment interrelationships.

Based on five measures of maternal understanding, and the usual seven measures of adjustment, for each group an intercorrelational matrix with 35 *r*s was available. Out of this total, the number of significant *r*s for E_1, C, and E_2 was 10, 7, and 13 respectively for a grand total of 30 out of 105. Although the over-all significance of this event cannot be precisely determined because of the nonindependence of the correlations, we may note parenthetically that the majority of the significant correlations are at *p* .01 or beyond. Moreover when the extent of significance is compared to that noted for the attitude-adjustment relationships, the likelihood that the present set of findings is a meaningful one is enhanced.

Although the total number of significant relationships varies slightly across groups, and the specific variable by variable significant relationship also differs somewhat for the several groups, an over-all appraisal of the results tables suggests that the reliable effects tend, by and large, to cluster in the same general spots for all three groups. Thus, in each case, the more accurate the mother's forecast on the self-concept measure, the better adjusted does the child appear to be on the two self-concept measures. It should be emphasized that the correlation between the mother-child discrepancy and child self-ideal discrepancy may be spuriously inflated by the common appearance of the child's self-sort in both. On the other hand it may also be observed that the mother-child discrepancy score correlates significantly with several completely independent adjustment criteria as well. For example in the C group, the smaller the mother-child self-concept D-score, the better adjusted is the child in terms of teachers' ratings, low perceived rejection and high perceived acceptance on the SPT-B. The latter two of these relationships are also significant in E_2, and the first, though not significant, is in the expected direction. For the E_1 group all three correlations fall short of significance, but all are in the expected direction.

Accurate parental prediction on the SPT-B acceptance scale also appears to relate consistently to several indicators of good adjustment in the child. Thus for E_1 and E_2 this predictor correlates with good adjustment as reflected on both self-concept measures as well as with low perceived rejection and high perceived acceptance. Although none of these four relations reaches a satisfactory significance level for the C group, the *r*s are once again in the expected direction. Similarly, good forecasting on the SPT-B rejection scale relates in all three groups to high perceived acceptance and low perceived rejection. This same predictor variable correlates significantly with self-concept adjustment scores indicating good adjustment for E_1, and just barely fails to reach significance in its relationship to good adjustment on both self-concept measures for the C group. In this latter case the absolute magnitude of the *r*s is actually higher than for the E_1 group; its failure to reach significance at *p* .05 or beyond is due to the relatively smaller size of the C group. Low mother-child D-scores on sundry other predictor measures correlate significantly with individual adjustment indices in each of the groups, notably the SPT-B overprotection D-score for E_2. It is clear however that the latter relationships are less systematic and consistent than the preceding ones, and that the strongest relationship occurs when the self-concept measure and the SPT-B rejection and acceptance scales are used as the basis for computing predictive D-scores between mother and child.

In overviewing the basic findings bearing on the hypothesized relationships between parental understanding and child adjustment the following facts stand out: (1) considering the limited reliability of some of the scales used, the over-all number of significant relationships, 30 of 135, is rather high; (2) in all 30 instances of significant correlation, the correlation is in the anticipated direction, i.e. the better the prediction as measured by low D-scores between child's actual response and mother's prediction of child's response, the better adjusted is the child on the criterion adjustment index; (3) the over-all pattern of correlations is quite similar across all three groups, and where correlations are significant in one or two groups but not the other(s), the direction of the nonsignificant correlation is typically consistent. We shall interpret these data, as a basic confirmation of the underlying hypothesis that good maternal prediction should relate to good child adjustment. Moreover, it is our belief that this relationship is a general one which cuts across all three groups; its magnitude does not differentiate among them.

3. "DUMMY" SORTS

Before speculating about the implications of the foregoing interesting set of findings, some brief comments growing out of our findings with the "dummy" sort may be in order. Comparison of our three total groups with respect to the degree of correlation between self-concept adjustment score based on the mother's prediction of her own child's self-concept and mother's prediction of the typical adolescent's self-concept (i.e., "dummy" sort), indicates a rather high degree of across-group constancy in the relationship. The *r*s for E_1, C, and E_2 were .35, .52 and .44 respectively, each moderately positive and significant. That these correlations fall in a fairly homogeneous range immediately suggests that even if projection was operating in the mother's ratings of her own child, it was not operating differentially across groups. However, the possibility that such a bias was present and functioned as a roughly constant source of error in the ratings of all three groups, still remains. Or to phrase the matter otherwise, the question may be raised as to what component of the mother's rating of her child is governed by "assumed similarity" rather than "real similarity." Quite apart from the conviction of some investigators (Jackson and Carr, 1955) that similarity of rating reflects warmth and closeness rather than projection, or the belief of others (Norman and Leiding, 1956) that this methodological problem is more of a problem on a mass empathy test than it is in situations where predictions are being made for one particular person, the magnitude of the observed correlations in the present study is such as to set an upper limit of anywhere from 12 to 25 per cent from the three groups, for common rating variance. We are therefore inclined to believe that the potential bias in our findings in the area of understanding, particularly with respect to relationships between understanding and adjustment, coming from this source, is minimal.

There is, however, one other intriguing aspect of the "dummy" sort data. For the partially sighted subgroup of the larger E_1 group, the correlation between mother's sort for own child and her sort for the average child drops to .00. This finding is grossly different from what has been observed for any other subgroup or total group. It seems highly probably that the partially sighted child is viewed by his mother as significantly more atypical in comparison to his peer group, than is any other type of disabled or nondisabled youngster studied in this investigation. The apparent inconsistency of this datum resides in the fact that the visually disabled child who, objectively, most closely approximates his sighted peers, is phenomenologically perceived by his mother to be most dissimilar from the latter. Such a finding brings to mind once again the oft-noted problems of overlapping psychological situations and marginality (Barker et al., 1953; Meyerson, 1955) which may be a particular source of vulnerability for the partially sighted child. It may be recalled, in this context, that there was a slight tendency for partially sighted youngsters to score directionally as the least well adjusted of the three disability subgroups in our E_1 sample.

4. IMPLICATIONS

The findings growing out of the variable of maternal understanding appear to be among the most important of the present investigation. With understanding defined in terms of accuracy of the mother's prediction of the child's test behavior, we find that this measure correlates consistently and significantly with basic measures of adjustment and child perception used in the study. These interrelationships appear to hold up rather well for the several groups, and are found to occur across a variety of predictor measures of understanding and a variety of criterion measures of adjustment. While it is perhaps true that some of these correlations are spuriously inflated by elements common to the understanding and adjustment measures, it is also appropriate to point out that they hold up in instances involving completely independent measures representing these two classes of variables, as well. Accordingly we feel justified in concluding that the greater the mother's understanding, the better adjusted is the child, and the more positive are his perceptions of parental attitudes.

The mother who can accurately represent the child's probable responses in a concrete test taking situation is likely to be a person who has a good deal of sensitivity to the child's needs and perceptions. If a mother did not have such "understanding," it would be difficult for her to behave toward the child in a manner which reflected a cognizance of his needs. To understand a child in no sense guarantees that behavior toward him will optimally facilitate his personality development or his adjustment; on the other hand to fail to understand a child places very substantial barriers in the way of a sound parent-child relationship. In this sense we are suggesting that maternal understanding is at least a necessary, if not sufficient, base for acceptant, empathic maternal behaviors which are likely to promote the development of feelings of security, confidence, and self-esteem in the child.

Of some importance is the fact that there are no cross-group differences either in maternal understanding or in the degree of relationship between this variable and adjustment in the child. This datum underscores the probable importance of maternal understanding to all children—those with visual disabilities as well as the nondisabled majority. Doubtless, individual mothers vary considerably in the manner in which they seek to convey understanding to the child. Nevertheless, the fact remains that where the mother is capable of accurately assuming the child's frame of reference, we have a powerful force operating in the direction of sound personality development and good adjustment in the offspring.

Once again we find something of a paradox in our study when we contrast the findings emerging from the attitude and understanding sectors. Both sets of measures appear on the surface to be cut from the same cloth—the verbal behaviors by the mother and by the child. Yet our attitude measures have pretty much failed to "pay off," whereas the findings from the understanding area collectively build up to a rather promising picture. Furthermore, when as we have done in the preceding chapter, direct comparisons of these two classes of measures are made there seems to be virtually no relationship between them.

In seeking to reduce our own cognitive dissonance with respect to this matter, we can identify one major difference between the two sets of measures which may facilitate our understanding of these discrepancies. The attitude measures represent, in the last analysis, a rather abstract and intellectualized task. The parent is asked to indicate how he feels about a given issue. If his feelings happen to be negative in the social evaluative sense, but at the same time he does not perceive himself as the type of person who should have such negative feelings, the easiest resolution whether it be conscious or unconscious, is to rationalize or to deny the antisocial feeling and to replace it with a response which is more likely to be deemed socially acceptable. Earlier in this chapter when we evaluated the attitude findings, we suggested that this is something which the parent of a normal child (as in the present study) is perhaps more likely to do than is the parent of a labelled maladjusted child (e.g. neurotic, schizophrenic, delinquent, etc.). In the latter instance the worst is already known and the motivation to present a socially acceptable facade is reduced. Hence it may be that attitude scales have been more useful in studies involving deviant groups as opposed to those using children within the so-called normal range.

On the other hand, the understanding indices require that the parent perform a highly concrete function (i.e., that of predicting on an item by item basis how the child has responded to a series of specific test stimuli). Here the perception of the situation by the parent is much more likely to be such that ego enhancement will not solely or even primarily result from the absolute goodness or badness of the judgment in any social evaluative sense, but rather from the accuracy of the forecasting job which he can do. Reinforcement for the parent may thus derive from the prospect of the ideal perfect match, and in that sense he is motivated to respond accurately and as he really feels, without the detrimental effects of mediating intellectualizations and covering up processes. This line of reasoning, though clearly after the fact, is at least capable of explaining the incontrovertible empirical fact that our attitude measures were unrewarding whereas our understanding findings were encouraging.

D. FATHERS' DATA

A necessary condition for inclusion of an *S* in this study, was that it also was possible to do a complete test battery with his mother. It was our hope that we would be able to test a sizable number of fathers. Our wish to do this was, no doubt, guided by the time-honored recognition that the father seems to be the prime target of the experimenter's forgetfulness or inattention in research on family relationships (Thompson, 1959). Although a conscientious attempt was made to see all fathers, we were eventually able to obtain data from only about 40 per cent (N=66). The major roadblocks in our efforts to work with fathers were practical ones. For one thing most fathers are not at home during the day, and many are also gone at least several evenings per week. Since a good portion of our data collection was done in geographically distant areas, typically our research team would be in a given city or town, for one, two, or perhaps three days, during which period all available hours were filled as compactly as possible. Under such circumstances, fathers could only be seen on a catch-as-catch-can basis. Thus it is that the greatest percentage of fathers' data comes from the Rochester area, where there was greatest flexibility in scheduling, while the lowest per cent of tested fathers is to be found in our E_2 sample where the 56 *S*s were drawn from seven states and perhaps 25 to 30 different communities. Functionally then, we had only two usable groups of fathers (N=24 each) representing the E_1 and C groups.

Though, because of the nature of the findings, only a limited segment of the fathers' data has been reported, we would emphasize that these data were analyzed as fully as were those based on testing of mothers. Two things emerge quite clearly from these analyses. First, the general pattern of relationships among variables is roughly similar to that deriving from the mothers' data, and second, the relationships which are found, tend to show up in a relatively more diluted form. Illustratively, whereas there is a clear-cut pattern of relationships between high maternal understanding and good adjustment in the child, these relationships for the fathers, although directionally comparable are explainable in terms of chance expectancy insofar as their over-all pattern of significance is concerned. Differences between visually disabled and sighted groups are nowhere in evidence for the fathers' analyses.

The most tempting explanation for these findings is the obvious one that the father exercises a less crucial influence on the child in the personality adjustment area than does the mother. Such an interpretation is consistent with the viewpoint advanced by Hurlock (1956), who states: "While a child may have a poor relationship with one or both parents, the most damaging effects on the child come from a poor relationship with the mother. . . . Problem behavior comes more often from the mother-child than from the father-child relationship" (1956, p. 512-3). We would be unhappy, however, about leaving this as an untempered conclusion, since there are two concrete limits of the experiment which could potentially have contributed to the same end result. In the first place father comparisons are based on restricted Ns of 24 per group, in contrast to the Ns of 71 and 40 respectively used for comparison of E_1 and C mothers. Secondly, our focus throughout the study was on the mother; hence primary attention during simultaneous testing of both parents was directed to her. In at least a minority of instances the father was perhaps cast in the role of an afterthought insofar as the structure of the testing relationship was concerned. To the extent that any appreciable number of fathers may have so perceived the situation, this would have acted as a deterrent to conscientious, ego-involved test-taking behaviors and, ultimately, would have detracted from the validity of the measures.

One final aspect of the fathers' analysis warrants comment since it proved to be a particular source of disappointment to the experimenters. Our data were such as to permit derivation of a series of mother-father consistency measures. We reasoned that to the extent that both parents shared a common set of perceptions and a common view of the child, the family situation would be more conducive to the child's healthy development. Whatever the merits of this viewpoint, it was not supported by the facts and each of the three measures of mother-father consistency was found to be unrelated to adjustment indices in the child.

While the results of the foregoing analyses are discouraging, the reader may correctly detect a sense of uneasiness in our discussion of them. Perhaps it is that we are not truly convinced that our investigation was optimally set up for studying fathers and that sounder knowledge about the latter group is likely to emerge from researches which are specifically set up for that purpose, and in which the collection of fathers' data is a primary rather than incidental objective.

E. ADDITIONAL CORRELATIONAL ANALYSES

It is perhaps a fundamental characteristic of research, that it provides data much broader in scope than the problem originally posed by the experimenters. Although this fact has been known since the earliest days of scientific investigation, it is one which has attained growing practical significance as a function of the relatively recent advent of electronic data processing techniques. Such equipment makes possible mass analyses of large quantities of relatively complex data in extremely short periods of time.

There are both virtues and vices inherent in this obvious technological advance. On the positive side of the ledger, it seems inevitable that the pace of accumulation of scientific knowledge will move faster; we can now do analyses in one day, which a short time ago would have required perhaps a year of laborious calculator punching. When we have a sizable body of data, we can freely and easily explore "tangential" relationships, which would have been low enough in our original hierarchy of experimental intent to have been by-passed if detailed hand analysis had been required. Very simply, there has been a change in our balance of values. That which we have considered unimportant primarily because the promise of the results did not merit the investment of three months' time, suddenly becomes quite worthwhile because we can get our answers in ten minutes. And, of course, with such a change in orientation, we discover more rapidly, relationships which earlier would have been overlooked or dismissed.

There are, however, dangers in this feverishly accelerated process. We explore so extensively that we become vulnerable to continued capitalization on chance; our data analysis becomes so removed from the human operator that we begin to exclude the valuable cognitive processes which continually go on when the scientist sits at the calculator and thinks constructively and productively about his findings as they emerge individually and, later, into a cohesive pattern.

In the current study we have fallen victim to the wondrous magic of electronic data processing, and with it, as noted in the results chapter, has emerged a cluster of empirical findings, which although orthogonal to our original foci, meet the test of cross validation, and hence hold out the promise of stability and perhaps psychological significance. The very process of setting up our basic 36 x 36 correlational analyses reflects the guess-work and empiricism underlying our approach. At the core of our study were three groups of measures: seven adjustment scales, eleven attitude indices and five measures of understanding, for a total of 23. But the machine which was doing the correlational analyses had a greater capacity, so we had thrust upon us the question of what additional measures might be interesting and worthwhile. We picked thirteen other variables, clearly exercising a value judgment, the heuristic value of which is unknown. Some of these were control measures, some were more remote mother-child discrepancy scores, some were mother-prediction measures, and a few defy classification. And, after our bread-and-butter analyses had been completed, we looked at the findings on these miscellaneous measures. Most of these are reported in the preceding chapter. True, we set up certain hurdles or obstacles. We did not become interested in a significant relationship until it showed up in two, and preferably all three of our groups. This precaution was designed to minimize the vagaries of chance findings. We mentally discarded certain "isolated" findings which did not appear either to make sense *sui generis,* or to fit logically into a cluster of other relationships. Even so, several fairly strong and quite consistent facts remain. On these latter findings, we are willing to gamble. We do not offer them as conclusions, but rather as speculations. The prospect that they may contain the germinal seed for significant future research is sufficiently attractive to overcome the spectre of capitalization on chance.

One variable which failed to titillate our anticipatory fantasy, about which we had very few hopes and aspirations, and which was quite frankly included in our basic correlation matrix as something of an afterthought, was the self-concept adjustment score based on the mother's prediction of the child's self-sort (7). The mother is confronted with the task of judging how her offspring has sorted 60 self-referent propositions with respect to a hypothetical continuum ranging from "most like me" to "least like me." How does she perceive her child? Does she think his own self-image is a sound, healthy, positive one or does she believe he is derogatory, self-depreciating and unhappy? And, of course, most basically, does it make any difference what she thinks? The empirics of the matter suggest most strongly that this measure was a particularly sensitive one for all groups throughout the study. Being crassly unobjective, one might say that this variable behaved "beautifully" in the sense of relating in a logically consistent fashion to most other pivotal measures in our study. Thus where the mother's predicted self-concept for her child yielded a score indicating good adjustment: 1) the child was indeed found to be well adjusted both in terms of the internal self-ideal discrepancy measure, and the external, objective, teachers' ratings; 2) the mother also predicted that the child would perceive little pity and high acceptance on the SPT-B, and the mother herself expressed low rejection and high acceptance on the SPT-A; 3) there were small discrepancies between: child's actual self-concept and mother's prediction of the child's self-concept; mother's perception of the average or typical adolescent's self-concept and her own child's actual self-concept; mother's prediction of the child's self-concept and the child's actual ideal self.

Within the framework of limitations of the instruments which have been used, this over-all pattern appears to be a rather positive and constructive one. We would venture to guess that where the mother, in predicting her child's responses, selects options reflecting good adjustment, she is evidencing a degree of security, acceptance, and, if you will, "vote of confidence" which may well be symptomatic of a healthy parent-child relationship. While it is appropriate to note that many variables in this cluster of correlations may merely reflect verbal behaviors, and others among them may themselves be intercorrelated, it is also true that some of the correlates (e.g. teachers' ratings) are based on completely independent external measures and, as such, add credence to the view that we may be dealing with a measure of considerable potential significance. At any rate our findings on this dimension are sufficiently strong and clear-cut to warrant further experimental work with this measure, in its own right, as well as in its representativeness of a larger class of variables.

Two of our second-level discrepancy measures also appeared to produce striking enough patterns of interrelationships to warrant specific citation and comment. These are the discrepancy between mother's prediction of the typical adolescent's self-concept and her own child's actual self-concept (21), and the mother's prediction of her child's self-concept minus his own ideal self (24). While each of these measures correlates with a goodly number of other indices, we are particularly interested in their relationship to a cluster of four other variables. Low D-scores on both of these measures relate to good adjustment in the child as measured either by low self-ideal discrepancy or low self-concept adjustment score, good adjustment on the mother's predicted self-concept measure, and low mother-child discrepancy on the self-concept index. This common core of consistent relationships for these two measures is supplemented, for variable 21, by a significant relationship to low maternal attitudes of rejection on the Master Scale, and low maternal rejection on the SPT-A, and for variable 24, by significant relationships to low predicted pity and high predicted acceptance by the mother on the SPT-B. Here, again, are two measures which are "alive" in the sense not only of the frequency of significant relationships which they show to other variables, but also with respect to the fact that the specific pattern of relationships which emerges, appears, if we may again exercise a value judgment, to be a logically consistent, positive, healthy one. Hence further speculation as to what they may be reflecting, seems justified.

A low score on variable 21 indicates that the way in which the mother perceives the average child is consistent with the way her own child sees himself. A large discrepancy on this measure could be found either in instances where the mother was accurate in her perceptions of the typical adolescent, but her offspring saw himself as very different from such a composite, or else where the child rated himself in a manner which closely approximated that of modal adolescent, but the mother was very inaccurate in her rating of the average child. Whether the difference is due to perceptual distortion by mother or child, or whether it reflects genuinely different value systems, it adds up to disagreement between mother and child, and potentially to a source of conflict between the two. In like manner a low D-score on variable 24 would suggest that the mother's estimate of the child's self-concept is relatively close to the child's ideal self. It is probably defensible to speculate that if the mother sees the child as actually being very much like what the child himself would like to be, there is likely to be a reasonably good base of maternal acceptance, and little pressure on the child to change. Conversely if there is a high discrepancy on this measure, the perceptual misalignment between mother and child may well be symptomatic either of dissatisfaction by the mother with the way the child actually is, or else perhaps unrealistic and unachievable standards on the part of the youngster.

The foregoing comments are admittedly speculative. They are prompted by the consistent and striking empirics of this study with respect to these two discrepancy measures. Once again, for us, this adds up to a sufficient base to warrant more concerted investigatory effort in their direction.

One minor additional finding which perhaps merits citation is the low but significant correlation between age of the child and mothers' negative attitude to blindness, in both the E_1 and E_2, but not the C groups. It is conceivable that as the visually disabled adolescent progresses chronologically toward adulthood, where he will no longer have the sheltered, protective comforts of the home or residential school, the mother becomes increasingly aware of the fact that he will ultimately have to exist independently, and to function competitively in society. Such an emergent awareness could potentially evoke a growing, emotionally meaningful anxiety in the mother, which in turn might manifest itself in the form of more negative attitudes toward the disability. The operational consequence of such an hypothesized state of affairs in the present study would be, as noted, a higher score on the antiblindness scale by the mothers of older visually disabled adolescents.

F. OVERVIEW

Throughout the volume we have been unable to resist the temptation, on a hit and run basis, of alluding to shortcomings of our research or, perhaps, of pointing up a direction in which future research might proceed. Yet now, having told our story, there remains a need, at least briefly, to highlight in a somewhat more focused and systematic fashion the contributions and limitations of our work. While such an account must inevitably suffer from the biases and distortions of four ego-involved participants, at the same time we can justify ourselves on the assumption that our experiences in the line of fire have been sufficiently unique to be potentially useful to others.

Starting on the credit side of the ledger, where it is easiest to discourse, we can look back at our research with some satisfaction as to its basic intent and approach. The investigation, as part of the emergent genus of sociopsychological approaches to the study of personality factors in disability, hopefully transcends the narrow and static comparison of groups by means of inventories which has rather fruitlessly dominated the field for so long. We have sought to break away from this tradition, not only through the development of more meaningful, dynamically oriented, and appropriate instruments, but also by looking for correlates and determinants of good and poor adjustment to visual disability. In this regard, the primary investigatory target has been in the area of parental attitudes and parental understanding. The time and effort which have gone into the development of instruments and techniques which can properly be used to study adjustment in the visually disabled, we certainly consider to have been time well spent. And although we are, in several instances, not entirely satisfied with these measures, we nevertheless feel that we have been able to take a constructive first step in the direction of development of methods which may be genuinely useful to research workers in the future. We are, retrospectively, pleased that we did not confine our eggs to one basket and that the techniques we have constructed vary in style, in content, and in depth. Our belief is that this will expand the base of future research potential.

We are, to some extent, also pleased with the relatively high degree of objectivity with which it was possible to approach our data analysis. Perhaps this represents a reaction formation to the overuse of subjective impression in preresearch rumination in the area of visual disability. While objectivity is certainly not an end in itself, as may be inferred from our earlier critique of the objective, reliable paper-and-pencil inventory comparisons of visually disabled and sighted groups (lacking however in fundamental validity), it is a highly desirable condition in situations where it does not detract from the meaningfulness of the data.

The substantive findings of our work were at times expected and, at other times, most surprising. Sometimes they supported popular belief and prior research findings and sometimes they flatly contradicted them. More important, we believe that the study offers a corpus of interpretable findings with respect to problems which we consider to be of significance to the psychology of visual disability. These occur not only in the guiding questions which motivated the research, but also with respect to baldly empirical matters which we approached with considerable trepidation and gingerliness. And in both respects, we perceive the data to contain the seeds and spurs for considerable constructive research effort in the future.

So much for our illusions; now to face up to stark reality! Notwithstanding the power of our collective perceptual defense systems, it is by now apparent, even to us, that we have fallen short, in at least several significant ways, of our intended mark. We have already given ourselves a gracious, and perhaps gratuitous, pat on the back for our work in the area of instrument development. But, unfortunately, this is not the whole story, and it is now appropriate to recall that we described this work as an important "first step." In retrospect, aspects of our instrument development program leave much to be desired, and these defects must be remedied if the work which follows the present investigation is to take significant strides forward. For one thing, our instruments and techniques were all too often left in an immature state of development, and because of the presses, some internal—many external, to achieve substantive findings, we by-passed a series of important methodological steps, including validity and reliability studies, which could have firmed up the foundation of our study immeasurably. This has been particularly true for all forms of our Situations Projective Test, an instrument which seems sound conceptually, but which is weak technically.

The conclusions deriving from any research study can be no stronger than the instruments upon which they are based. We cannot overemphasize the importance of this problem to the area of research on disability in general or visual disability in particular. Research in this area is extremely young. Techniques appropriate to the peculiar and unique measurement problems inherent in it are not readily available. There is an absolutely fundamental need for the development of instruments and techniques which are appropriate to the disability group, methodologically sound, and potentially capable of providing answers to significant questions. Regrettably, investigators in the past have all too often snubbed their noses at the methodological issues which are often the bedrock of good research. Methodological work, and the development of new instruments is not flashy and dramatic; more often it is slow, painstaking and laborious. It does not provide ready answers in terms of content; rather it is instrumental to the provision of such answers. Hence it has come to be regarded by many as "dog-work" or "hack work." But, insofar as the area of visual disability is concerned such basic work must be done if the field is to advance to a sounder research footing. We simply do not have the techniques and instruments available to provide a basis for answering the significant questions which must be answered. While it is eminently true that good research emanates from good ideas and significant questions, it is equally true that such research is meaningless without the requisite tools of investigation. And, in the view of the present authors, we do not have a sufficient number of requisite tools at this time in the area of the personality development and adjustment of the visually disabled. The resolutions of throwing ill-prepared devices into the line of fire, or of unthinking application of techniques developed with other groups, but ill-suited to problems of visual disability, are unsatisfactory. In the long run such answers will slow down rather than accelerate scientific progress. It is a far better thing to spend five years on a problem, with the appropriate methodological steps, than to spend two years looking for relationships with a patched together and unsatisfactory set of assessment procedures. We firmly believe that our own study has some serious methodological links missing and that it would have been a much stronger one had these requisite steps preceded in greater detail, the substantive portions of the investigation.

Quite beyond these matters of methodological rigor, it is also our frank belief that our network of assessment procedures was probably too heavily weighted toward verbal behavior measures. Such devices, while they have the virtue of ready objectification, can be too readily manipulated by the respondent into a pattern which he would like to see reflected as opposed to one which is genuinely true of him. One of our prime feelings in this regard, was the area of attitude measurement, where our findings are without question subject to appropriate criticism. Although we have attempted to work our way out of this morass by means of a certain amount of verbal sleight-of-hand, it could defensibly be argued that we have not really provided an appropriate test of the hypothesis in this area. Clearly, we require greater depth in this area, so that we can feel with confidence that we are tapping private and central feelings about important attitudinal issues, rather than publicly expressable verbal behavior. It is to be hoped that depth interview, projective approaches and a greater focus upon behavioral indices in the parent may bring us closer to this cherished goal.

Even in the case of those verbal behavior measures which showed more promise (e.g. the self-concept measures), it may well be that our findings contain an element of confounding arising from the unassessable operation of sundry response characteristics such as response set behavior or the use of social desirability stereotypes. Considerable basic research on the formal characteristics of verbal response behavior outside the area of disability gives promise of contributing to the resolution of such problems.

Over and beyond verbal behavior indices, there are many other approaches to the study of adjustment, which can, and should be applied to the visually disabled. In the present investigation, teachers' ratings were so used. Our abortive venture into the area of projective study via the Auditory Apperception Test was deflected by circumstances beyond our control. We feel, however, that the idea was a sound one and that projective methods have a good deal of potential insofar as a psychodynamically oriented approach to the personality study of the visually disabled is concerned. We need more than test scores for such people; we need to know about their wishes, their fears, their anxieties, their style of life, their coping mechanisms, etc. There is also considerable room for an approach to adjustment from the standpoint of behavioral indices, environmental achievement correlates, and physiological measures. Many potential criteria in these areas have a type of practical face validity which is difficult to simulate in the laboratory setting.

Moving away from problems of instrumentation, we can also detect some serious shortcomings in our research, with respect to matters of design. Although we carefully selected beforehand a series of control variables on which we considered it necessary to match groups, the good intent outstripped the deed. Actually in several important instances (e.g. SES, and grade placement) our matching procedures faltered and significant group differences on these control variables were found. These differences have come back to haunt us, and have in spots confounded the interpretation of the data, by making it impossible to extract the contributions of demographic differences from genuine group differences as we examine a given significant effect. Undoubtedly, a significant source of trouble in this respect, has been the extreme practical difficulty involved in subject procurement, and indirectly, in the considerable financial problems that inhere in constructing a visually disabled sample which is matched to several other groups on four demographic variables. In our own work, quite beyond these matching failures, we have been forced to overlook other control variables which may be of some importance (e.g. geographical distribution; urban-rural breakdown).

Even though we have probably been more attuned to the need for control of demographic variables, and in that sense have set up a more ambitious control program than our modal predecessors, and even though significant differences on control variables, when observed, tend to be small absolutely, the failure to achieve proper control tarnishes the substantive findings and actually leaves some in a partially uninterpretable state. It has been one of the historic shortcomings of research on the personality correlates of disability that these control problems have been ignored. Our confidence in future research findings will be enhanced to the extent that we may be sure that differences on dependent measures of interest are properly reflecting variations of pertinent independent variables rather than unassessable gyrations of variables which should have been controlled.

Additionally, there are limitations upon generalization which should be noted. Perhaps the most formidable of these is the fact that our work was restricted to a given age range, i.e., adolescence. We do not as yet have adequate information with respect to the developmental aspects of personality and adjustment among the visually disabled. It is entirely conceivable that regularities which apply to the visually disabled adolescent are not equally true of younger or older visual disability groups. Illustratively, our data suggest for both disability groups that with increasing age during adolescence, maternal attitudes to blindness tend to become more negative. It is thus, at least theoretically admissable that, although there may be no group differences in adjustment during this period, when individuals depart from the sheltering and protection offered by the family or the residential school, and must face the tribulations of reality, significant changes in adjustment may take place. It might also be that differences in adjustment, which dissipate by adolescence, could be detected when younger visually disabled are compared to their sighted peers. Although the present study does not contain evidence pointing specifically in these directions, they nevertheless remain as important issues which will require empirical resolution. We see considerable virtue in a developmental approach to the adjustment problems of the visually disabled, covering the entire life span. Until such work can be done, our own conclusions must be restricted to the adolescent age range.

Similarly, our generalizations are restricted by the vicissitudes of our several samples. Particularly to be noted in this context is the fact that our E_1 and C groups were drawn essentially from three metropolitan centers in New York State. Our E_2 group by contrast was drawn from four residential schools for the blind, scattered around the northeastern quadrant of the country. These then are the populations to which we can properly generalize. To the extent that they are atypical with respect to our pertinent criterion measures, our generalizations are accordingly restricted. For example, if our four residential schools should happen to be systematically more progressive and forward looking (or, conversely, less so) than other residential schools for the blind around the country, then what we conclude about the effects of residential treatment and the personality and adjustment of children in these settings when compared to other groups, is a specific school effect rather than an effect of the general class which we have presumed that these schools represent.

As we think of research problems for the future, there is merit we believe, in abandoning momentarily our provincialism with respect to the area of visual disability. While there are undoubtedly unique aspects of visual disability, it is also true that visually disabled individuals share a common heritage with other disability groups in our society. Whether this common psychological position is formulated conceptually in terms of theoretical notions such as underprivileged positions, marginality, and new psychological situations, or whether it is viewed in terms of their parallel paths of development as fields of research interest, the communality remains. We would therefore strongly propose, with appropriate modifications of instruments and techniques, extension of this line of sociopsychological research inquiry to other disability groups.

CHAPTER VII

Summary and Conclusions

Broadly stated, the overriding purpose of this work has been to further our understanding of adjustment to visual disability in adolescence. In the search for correlates of good and poor adjustment, our particular focus was directed to the family situation. The investigation was prompted, though not limited, by a series of five guiding questions: (1) How do visually disabled adolescents compare with demographically similar but sighted adolescents in terms of personality make-up and adjustment? (2) How do the parents of these two groups of *S*s compare with respect to their attitudes toward child-rearing, blindness, minority groups, and authoritarianism? (3) Are there relationships between these types of parental attitudes and adolescent adjustment, and if so are there group differences in this respect? (4) How do parents of visually disabled and sighted adolescents compare in their ability to understand their children? (5) For each subject group, how do these measures of parental understanding relate to the adjustment measures, and are there group differences in this respect?

While the above questions have been regarded as primary, we have been aware that our research might potentially shed light on many other issues, and we have, from the start, been so attuned. Illustratively, for our visually disabled *S*s, we have been interested in the exploration of possible sex differences in adjustment, differences between home-living and residential youngsters, differences as a function of degree of disability etc. We have also been concerned with the possibility of identifying clusters of personality and adjustment related responses or items which might discriminate the visually disabled adolescent from his sighted peer, and with the development of regression equations which might predict to good adjustment in visually disabled *S*s. Some of these considerations were anticipated beforehand; others did not occur to us until the study was well under way. With regard to the latter we have been frankly empirical in our approach, hoping thereby to be able to identify the maximal number of promising research leads.

Extensive review of relevant literature revealed a striking deficit in many prior investigations in this area. The majority of studies seeking to compare the adjustment of visually disabled and sighted *S*s, has been seriously encumbered by problems of inappropriate and static instrumentation, and design characterized by weak methodology and poor control. Although the weight of evidence deriving from such studies pointed to the likelihood of poorer adjustment for visually disabled *S*s, it was our belief that their fundamental weaknesses in design and in execution precluded definitive conclusions in this area.

On the other hand there seemed to be a sound basis, particularly in terms of the literature with nondisabled *S*s, to suggest the reasonableness of the hypothesis that warm acceptant parental attitudes and a high degree of parental understanding would be related to good adjustment in the child. Whatever pertinent literature was available from the study of visual disability confirmed the plausibility of this belief.

Our investigation proceeded in three major steps. The first of these was directed toward the development of instruments and techniques necessary for the substantive portions of the investigation. Because of the inadequacies of available measures of adjustment suitable both for the visually disabled and sighted adolescent, it was pretty much necessary for us to construct our techniques in this area *de novo*. Eventually we developed seven adjustment indices. Two of these, the self-ideal discrepancy and the self-concept adjustment scores, were derived from a modified Q-sort ranking technique. The third, teachers' ratings, represented an objective, external measure of adjustment. The remaining four, perceived pity, overprotection, rejection and acceptance were each based on a specially developed objectively scored projective technique, called as the Situations Projective Test-B (SPT-B). Strictly speaking these latter four scales were indices of the child's perception rather than direct adjustment measures.

Parental attitudes were assessed using a cluster of eleven measures. Seven of these were integrated into a large attitude scale known as the Master Scale. This included four scales: dominance, overprotection, rejection and acceptance from the Parental Attitude Research Instrument (PARI), portions of the California F and AM scales, and a specially developed Attitudes to Blindness Scale. The remaining four measures were derived from another form of our objectively scored projective test (SPT-A) and were presumed to reflect attitudes of dominance, overprotection, rejection, and acceptance respectively. In that sense they paralleled in content, though not in form, the four basic attitude dimensions of the PARI.

Understanding by the parent was defined according to the parent's ability to predict his child's responses on five of the test measures: the self sort, perception of pity, overprotection, rejection, and acceptance from the SPT-B. Operationally then, the smaller the discrepancy (D-score) between the parent's prediction of the child's response and the child's actual response on each of these measures, the greater was the understanding presumed to be. While the foregoing 23 measures may be considered to form the backbone of our study, our analyses were extended to cover some 15 additional indices, including sundry other D-scores, control variables, direct parent prediction scores, etc.

Upon completion of the methodological portions of our project, we next collected data with respect to adjustment, parental attitudes, and parental understanding for two samples: a visually disabled home-living adolescent group attending regular public day-school educational facilities (E_1) and an otherwise comparable but sighted group of adolescents attending similar schools (C). Mothers of all *S*s in both groups, and a substantial number of fathers were also tested. Preliminary analyses of the data deriving from these two samples indicated the need for further data collection. This prompted the third and final phase of the project. The latter was a replication of the original study with a new group of visually disabled adolescents, roughly comparable demographically to the two prior samples, each of whom was attending a residential school for the blind. Once again mothers of each of these *S*s were also seen; however, because the sample was highly scattered geographically, and our testing time was accordingly inflexible, only a very few fathers in this group were available for testing.

In order for a youngster to have been included in any of our groups it was necessary for him to meet the following criteria: (1) minimal I.Q. of 80, (2) age range between thirteen and eighteen, (3) grade range between seven and twelve, (4) expressed willingness of the child's mother to participate in the study, (5) adequate command of the English language by the parents. Each of the total groups included both male and female *S*s in approximately equal proportions. An attempt was made to match the three groups with respect to four control variables: age, grade, I.Q. and socioeconomic status. The grand means for all groups were approximately as follows: age—15.5; I.Q.—105; grade—9.3. Although differences among the groups on the control variables were small in the absolute sense, several of these were statistically significant; hence our efforts at matching were not entirely successful.

Certain additional restrictive criteria were applied in the selection of *S*s for the E_1 and E_2 groups. In the former case it was necessary that *S*s have a corrected visual acuity no greater than 20/70 in the better eye, and that this disability have been sufficiently serious to have warranted assignment to a special class for visually disabled students. Only children whose disabilities were congenital or else established before school age were included in this group. All E_1 *S*s were in current attendance in a public education day-school setting. Anyone who had either spent more than three years during any period of his life in a residential school or who had not been living in the parental home for at least three years prior to the time of testing, was excluded. The total E_1 group ($N = 71$) consisted of three subgroups differing in terms of degree of disability: the partially sighted, the legally blind, and the totally blind.

All *S*s in the C group ($N = 40$) were attending public day educational facilities. We excluded from this group (as well as from the E_1 and E_2 groups) children with functional disabilities in areas other than the visual one.

Criteria for inclusion of *S*s in the E_2 group included the following: (1) sufficient visual disability to have warranted the child's certification in his home state as totally or legally blind, (2) the visual disability must have been congenital or else established before school age, (3) the child must have lived in a residential school for the blind for a total of at least three years immediately preceding the time of testing (except for normal vacation periods). The larger E_2 group ($N = 56$) consisted of two subgroups: legally blind and totally blind. For each *S* in both disability groups, visual diagnoses had been made by school or private ophthalmologists and diagnostic information was uniformly taken from school records.

Each child was tested in two separate sessions of approximately one hour each, separated by a period of time. Each mother was tested in a single session running roughly two hours. When fathers were tested, they were seen at the same time as the mothers although the testing was always done independently. The test battery both for children and parents, was set up in a fixed order, and was so administered without exception.

The large mass of data deriving from our several data collections was subjected to a variety of statistical analyses. For the most part such analyses were based on small sample comparison of groups on the basic adjustment, attitude and understanding variables, as well as on a series of 36 x 36 correlation matrices, including all major variables used in the investigation.

Our basic conclusions organized around the original guiding questions which prompted this investigation, may be summarized as follows:

1. ADJUSTMENT

a) Basically we have found no differences in adjustment among the larger groups of home-living visually disabled adolescents attending public day educational facilities, visually disabled adolescents attending residential schools for the blind, and otherwise comparable but sighted adolescent controls. This is true not only for the seven basic adjustment measures used in this study, but also with respect to the attempt to identify group differentiating item clusters by means of item analysis techniques. These findings run counter to those from a goodly number of prior studies indicating poorer adjustment for the visually disabled. Although it is conceivable that the present results may be restricted by the limitations of the criterion series of adjustment indices employed in this investigation, we are inclined to perceive them as basically sound, and to view the differences in this area between our study and many preceding ones as a function of the higher level of control and the development of instruments more suitable to the visually disabled upon which this research has been predicated.

b) With respect to the relation between degree of disability and adjustment, while there are no over-all significant differences among subgroups in either of the larger visual disability samples, there is a tendency for better adjustment to be associated with greater visual disability in our home-living visually disabled group. Though the indicants are few and weak, whatever pertinent evidence derives from this research points in the direction of greater adjustment difficulties for the partially sighted child.

c) Sex differences in adjustment are found only in the residential sample. It is clear for this group that residential males are better adjusted than residential females with respect to the two self-concept measures. This finding, however, is contaminated by a breakdown in our matching procedures, such that males in residential centers also have significantly higher I. Q. scores than do their female peers.

d) It has been possible for us to develop a multiple regression formula targeted to the prediction of good adjustment (both for disabled and nondisabled *S*s) as reflected by the self-concept measure. Thus, to the extent that the child perceives high acceptance on the SPT-B, is seen as well adjusted by the mother on her predicted self-concept sort, is seen by the mother as being fairly similar to the average adolescent, and has a relatively high socioeconomic status, the probabilities are strong that he will score as well adjusted on the self-concept index. This prediction formula, developed empirically with the home-living visually disabled groups, holds up remarkably well and with virtually no shrinkage when applied to the other two samples. It seems quite possible that this approach can be profitably extended with important theoretical as well as practical implications.

2. ATTITUDES

a) With very few exceptions there are no differences among the mothers of the three groups with respect to publicly expressed attitudes in the areas of child rearing, authoritarianism, minority groups and blindness.

b) The anticipated relationships between positive maternal attitudes and good adjustment in the child were not found. The correlations between maternal attitude and child adjustment measures were extremely low throughout the study. Those few correlations which were significant, appear for the most part to be explainable as chance fluctuation.

c) The largest number of significant attitude-adjustment correlations (11 of 77) occurred in the residential sample. However a number of these were spuriously inflated by mothers' education. There was also a tendency for high maternal authoritarianism to relate consistently in this group to indices of poor adjustment in the child.

d) The basic failure of the attitude measures, throughout the study, to relate to adjustment indices was discussed in terms of the limitations of the type of attitude measure employed, in the light of the specific attributes of our samples. The need for further work in this area based on alternative approaches to attitude measurement, was emphasized.

3. UNDERSTANDING

a) No differences among mothers in our three groups were found with respect to understanding.

b) However, strong relationships were found in all three groups between maternal understanding and adjustment in the child. Greater mother's understanding as measured by low discrepancies between her prediction of the child's response and the child's actual response on a variety of indices, was related to good adjustment in the child. This clear-cut pattern of relationships, true of all groups, is among the most important of our substantive findings.

c) Relationships between maternal attitude and maternal understanding did not exceed chance. The former correlated very poorly with adjustment measures in the child, the latter very well. This discrepancy was considered to result from the concrete, accuracy oriented demands imposed by the understanding measures, as contrasted with the abstract, intellectualizable, falsification prone attributes of the attitude scales.

4. ADDITIONAL FINDINGS

a) The basic relationships among variables deriving from the analyses of the mothers' data were evident, at least directionally, in the comparable but smaller groups of fathers. Some of the significant correlations, notably those between understanding and adjustment, were not so high in the latter analyses. It was not possible to determine whether this more dilute relationship was a function of the smaller size of the father sample, or whether it reflected a less weighty impact of the father-child as opposed to the mother-child relationship.

b) A series of purely empirical analyses succeeded in identifying several indices which are systematically and consistently related in all three groups to a cluster of variables reflecting good adjustment in the child and healthy parent-child relationships. Thus where the mother's predicted self-concept for the child yielded a score indicating good adjustment, where there was a small discrepancy between the way the mother rated the typical adolescent and the way her child sorted for his own self, where there was a small discrepancy between the mother's predicted self-concept for the child and the child's ideal self, healthy, positive correlates in terms of child adjustment and parent-child relationships were likely to be found. Each of these three measures represents something of an unanticipated discovery; each withstands the test of validity generalization. As such they may represent potentially promising leads for future work.

How does all this add up? Any prior beliefs about inevitable contingencies between visual disability and maladjustment are severely challenged by the findings of the present investigation. Our groups are strikingly similar in this regard. Comparability and overlap between visually disabled and sighted adolescents with respect to adjustment, as opposed to sharp differences and significant discrepancies, is the rule which emerges from our work. For all groups, publicly expressed maternal attitudes are ill-suited to the prediction of adjustment in the child. On the other hand, consistent and sensitive correlates of adjustment are found in the cluster of indices of maternal understanding. Progress has been made toward the development of a complex set of predictors of good adjustment to visual disability. Empirically, variables have been identified which show promise of being particularly useful in future work in this area.

At the end of our study we believe we have added minutely but measurably to the storehouse of scientific knowledge about adjustment to visual disability. Perhaps more important, we believe we have chosen a path which represents a constructive start toward the provision of techniques and the uncovering of questions which may profitably occupy other investigators as well. We hope that this may be the case, for in the improvement and extension of this type of sociopsychologically oriented approach to research, we perceive an essential link in a concerted multidisciplinary approach directed toward the augmentation of our knowledge about visual disability, and ultimately toward a more effective, happier life experience for the visually disabled person.

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Appendices

Appendix A

Instructions to Judges on Self-Ideal Sort Items

Please rate these statements in the following way:

If you think the statement is one that a well-adjusted adolescent (in terms of whatever understanding you have of good adjustment) would say of himself, place a check opposite the number of the item under the column headed *Well adjusted.* If, however, you think that the statement would be made by a poorly adjusted adolescent (in terms of whatever understanding you have of poor adjustment), put a check opposite the number in the column headed *Poorly adjusted.* If you cannot decide whether the statement would be made by either a well-adjusted or poorly adjusted adolescent, place the check in the column headed *Undecided.*

It is essential that you take each statement at its face value as being a completely true statement made by the individual. Be careful not to think in terms of dynamics or defenses. If the person says that a statement applies to him, it is a true statement.

Appendix B

Instructions to Subjects for Self-Ideal Sort

Self-Sort:

I am going to read you a list of six statements. Each one of these statements is something that a person could say about himself. This is not a test, so there are no right or wrong answers. Listen to each statement very carefully as I read them to you. What I want you to do, is to pick out the statement which is *most like you.* Then, I will read them again, and I want you to pick out the one that is *least like you.* (S does this; E records.) Now I am going to read them to you again and I want you to pick from the remaining statements the one that is *most* and *least like you.* (S does this.) (Repeat 3 times for each block.)

Now we are going to do the same thing with a different set of statements. Pick out the statement which is *most like you.* Then, I will read them again, and you will pick out the one that is *least like you.* (Continue on as before for each block of items.)

Ideal Sort:

Now I want you to do something different with the same statements. This time, I want you to pick out the statement which describes your *ideal person*—the person which within yourself you would *most* like to be. Then I will read them again and you will pick out the statement which is *least* like your ideal person—the person which within yourself you would *least* like to be. (S does this.) Now I am going to read them to you again, and I want you to pick from the remaining statements the one that is most and least like your ideal person.

Self-Ideal Sort Items with Direction of Adjustment

Block	*Number*	*Direction*	*Item*
I **	1	G*	I enjoy being with the opposite sex.
	2	P	I feel people are unfriendly.
	3	G	I stand up for what I think is right.
	4	G	I usually like people.
	5	P	I am afraid of a full-fledged disagreement with a person.
	6	P	I avoid facing problems.
II	1	P	I feel that I can't do anything as well as others can.
	2	P	I feel unsure of myself.
	3	G	I am considerate.
	4	G	I am easy to get along with.
	5	P	I find myself belittling others in conversation.
	6	G	I am able to accept criticism.
III	1	G	I get along well with the people around me.
	2	P	The way I feel depends on the mood of those around me.
	3	G	I value independence.
	4	P	I have a fear of failing in everything I want to accomplish.
	5	G	My relationships with others are satisfactory.
	6	P	I am sarcastic.
IV	1	P	I tend to be on my guard with people.
	2	G	I am a frank person.
	3	G	I am able to accept responsibility.
	4	P	I hide my true feelings.
	5	G	I like to plan and carry things out for myself.
	6	P	I don't trust my own feelings.
V	1	P	I envy the happiness that others seem to enjoy.
	2	G	I am liked by most people who know me.
	3	G	I am sincere.
	4	P	I am easily upset.
	5	P	I always keep to myself.
	6	G	I am usually in good spirits.

* G indicates keying for Good Adjustment; P indicates keying for Poor Adjustment.
** Blocks I-V are those used in "dummy" sort.

Block	*Number*	*Direction*	*Item*
VI	1	G	I am able to be self-reliant.
	2	P	Self control is a problem to me.
	3	P	I feel that I am not getting enough done.
	4	G	I am emotionally grown up.
	5	G	I feel relaxed.
	6	P	I am usually shy.
VII	1	G	I can usually make up my mind and stick to it.
	2	G	I feel that the things I do are worthwhile.
	3	P	I usually seek the advice of others.
	4	P	It is difficult for me to control my anger.
	5	P	I often feel resentful.
	6	G	I feel I am intelligent.
VIII	1	P	I am a stubborn person.
	2	P	I have little respect for myself.
	3	G	I am optomistic.
	4	G	I am guided by values and standards of my own.
	5	P	I often make excuses for myself.
	6	G	I am a cheerful person.
IX	1	P	I have a feeling of hopelessness.
	2	P	My feelings are easily hurt.
	3	P	I put up a false front.
	4	G	I feel confident.
	5	G	I am able to express my feelings to others.
	6	G	I understand myself.
X	1	G	I am tactful.
	2	G	I am likeable.
	3	G	I am able to assert myself.
	4	P	I am a nervous person.
	5	P	No matter what I do, I can't satisfy my friends.
	6	P	I can't seem to make up my mind one way or another.

APPENDIX C

Instructions to Judges of Teachers' Behavior Rating Scale: Degree of Characteristic

Name:

The following pages contain descriptions of students' characteristics. A different characteristic appears on each page accompanied by a number of items representing various degrees of that characteristic. Please read each of the descriptions and the items below it carefully. Number each item to indicate how strongly it describes the particular characteristic.

The greatest degree will be number 1; the next degree, number 2; and so on, down to the least.

For example:

Characteristic:	Fear of things
Description:	Tendency to be afraid of or fearful of physical objects, animals, or strangers.

Items:

2 A. Is hesitant and cautious in unusual situations only.
1 B. Is fearful of a great number of things.
3 C. Shows no fear.

Since item *B* shows the highest degree of "fear of things," a rank of *1* is given to that item. Item *A* shows the next degree, so that gets a rank of 2. Finally, item *C* has the least degree of "fear of things," so this item is ranked *3*.

Place the rank that you give each item on the line to the left of the item. The number of items varies from characteristic to characteristic. Rank ALL the items under each characteristic.

Note: This instrument will eventually be given to teachers who will rate the behavior of their students. In the following pages, the second paragraph under *description* is designed for their use primarily.

Appendix D

Instructions to Judges of Teachers' Behavior Rating Scale: Degree of Adjustment

Name:

The following pages contain descriptions of students' characteristics. A different characteristic appears on each page accompanied by a number of items representing various degrees of that characteristic. Please read each of the descriptions and the items below it carefully.

Rank these statements on a continuum of adjustment from best to poorest adjustment. The best adjustment will receive a rank of 1, etc.

This instrument will eventually be given to teachers who will rate the behavior of their students and an estimate of over-all adjustment will be derived from these ratings.

Appendix E

*Teachers' Behavior Rating Scale with Adjustment Weights**

BEHAVIOR RATING

Student's Name: Code:
Grade: Date:
Teacher:

The following pages contain a number of characteristics which can be said to describe the behavior of students. A different characteristic appears on each page. Under each description are a number of statements representing various degrees of that characteristic. Please read each of the descriptions and the statements below it very carefully.

You are being asked to rate the behavior of a student on *each* of these characteristics of behavior. Do this in the following way:

In rating the student, first read the characteristic, its description, and the statements under it. Then decide, to the best of your own knowledge of that student, which *one* of the statements *best describes* the behavior of the student. Place a check mark on the line to the left of that statement. *There should be only one check mark on a page.* Do this for each of the characteristics.

Your cooperation is sincerely appreciated. Thank you.

I

Characteristic: Dependence on others.

Description: Tendency to depend on others, either adults or other students for attention, approval, support, and/or affection.

Does he continually demand attention: requiring the teacher's help and encouragement before he can accomplish anything, or does he enjoy his own accomplishments without demanding that others admire them, asking for help only when he has tried unsuccessfully to do a difficult task himself?

Items:		*Adjustment Weight*
________	Demands attention continually; works only under teacher's guidance. Asks for unnecessary help.	1
________	Prefers to work in a group where he is the center of attention. Is not satisfied with his accomplishments until they have been approved or admired by others.	3
________	Is self-reliant and self-sufficient. Is glad to share his accomplishments with others but does not seem to need their approval for his own enjoyment. Prefers to solve his own problems without asking for help, but accepts it when he cannot solve them alone.	5
________	Demands attention and admiration only when he has done something which he considers better than usual. Asks for help only when needed but asks freely when in difficulty.	4
________	Rejects any attempt to give him help; refuses to respond to affection or approval of any kind. Completely independent, aggressively so.	2

---

* Adjustment weights do not appear on scale used by teachers.

II

Characteristic: Assertiveness.

Description: Tendency to be assertive with other students.

Does he tend to give in when another student demands something from him, even when he himself is obviously in the right, or does he stand up for his own rights, give as good as he gets, showing little hesitation in approaching others?

Items:		*Adjustment Weight*
________	Seems fearful *only* of the more aggressive students. Gives in when challenged when he is in the wrong.	3
________	Is fearful of other students. Gives in *immediately* when challenged.	1
________	Seems self-confident and adequate with other students. Stands up for his own rights vigorously; unhesitant in his relationships with others.	4
________	Seems unsure of himself with other students. Gives in when challenged, but only after token resistance.	2

III

Characteristic: Tendency to worry.

Description: Tendency to worry about trivial or non-existent problems or events.

Is the student continually concerned with minor problems or possible future events to such an extent that he has no time or attention for problems of a more constructive sort, or does he tend to worry only about matters which concern him directly and which are of direct importance to his own work?

Items:		*Adjustment Weight*
________	Is concerned with trivial matters to a considerable extent but does not spend so much time worrying about them that he is unable to do some constructive work.	2.5
________	Adopts a happy-go-lucky attitude toward all matters, whether important or not. Unconcerned.	2.5
________	Tends to disregard or overlook small mistakes by himself and others. Spends little time discussing or worrying about them.	4
________	Worries incessantly about small, unimportant details. Is very concerned about the behavior of other students, commenting on anything which is not right about it.	1

IV

Characteristic: Criticism of others.

Description: Tendency to be over-critical and derogatory towards other students.

Does he constantly find fault with them, pointing out that they don't know how to do this or that, or does he tend to be uncritical of them, admiring their achievements and pointing out good points? (He may or may not compare himself to the others.)

Items:		*Adjustment Weight*
________	Is friendly and uncritical. Praises others genuinely. Usually finds something good in what others might say or do. Never points out deficiencies.	4
________	Is friendly and tends to think well of others' work unless it is conspicuously bad. Stands up for students who are unjustly criticized.	5
________	Is derogatory and critical of other students. Makes fun of their work; points out deficiencies. Never has a good word for anyone.	1
________	Is critical of others but not derogatory. Judges others' work carefully and finds it good or bad according to some standard of his own.	3
________	Praises others immoderately, whether their work is good or not. Seeks acceptance and approval by flattery.	2

V

Characteristic: Reaction to criticism.

Description: Tendency to be upset by criticism, both just and unjust.

Does he become upset the minute anyone indicates that his work is not excellent, or that it could have been better, or does he take criticism philosophically, accepting matter-of-factly that which seems valid and disregarding the rest? His reaction to criticism may take the form of withdrawal; he may seem hurt by the criticism rather than getting angry or sulky. Rate him according to the intensity of the disturbance rather than by the amount of overt behavior elicited.

Items:		*Adjustment Weight*
________	Appears not to recognize criticism as such; pays no attention to it. Acts as though it had not occurred.	2
________	Reacts strongly or violently to criticism. Flies off the handle when he, his actions, or his work is criticized, whether justly or unjustly. Sulks, or refuses to continue the activity. Seems hurt; withdraws.	1
________	Reacts more strongly than seems called for. May become sulky, depressed, or appear hurt. Does not, however, go to pieces. May become defensive. Is able to take some small amount of criticism without becoming upset.	3
________	Accepts all criticism in good grace. Is able to weigh the criticism and accept or disregard it on its merits.	5
________	Becomes upset if the criticism is unusually prolonged or intense, but is able to accept a normal amount matter-of-factly.	4

VI*

Characteristic: Complains of physical discomfort.

Description: Tendency to complain of physical discomfort.

Does he complain of headaches, stomach-aches, etc., or does he never complain of small aches and pains but only of real injuries? These pains may seem to have no basis in any actual physical ailment or they may be of a very trivial nature.

Items:		*Adjustment Weight*
________	Complains constantly of one type of discomfort or another. Can't do certain things because of stomach-aches, for instance. Constantly asks to see nurse. Has many intangible ailments (headaches, etc.).	1
________	Is stoical, never concerned even when badly hurt. Denies obviously painful injuries.	2
________	Makes much of small injuries. Does not complain of less tangible aches and pains.	3
________	Concerned only when badly hurt. Soon forgets small injuries, or ones which do not interfere in any way with his activities. Continues to call attention to more serious injuries.	4
________	Never complains; never seems to feel ill or to have his activities hampered by injury. Becomes upset only when painfully injured and forgets about it soon.	5

VII

Characteristic: Reaction to failure.

Description: Tendency to become upset when faced with a failure situation.

Does he become very upset, morose, or discouraged when some task which he is doing proves too difficult for him or when he is unable to get what he wants, or does he take failure calmly, accepting defeat if the task is too difficult or trying again if it still seems possible?

Items:		*Adjustment Weight*
________	Becomes upset only at repeated failures or when he is in a situation in which he is intensely involved. Is able to take some failure with a matter-of-fact approach. Needs help only when faced with repeated failure.	4
________	Seems untouched by failure; does not seem to recognize it as such. Does not seem to face the situation.	2
________	Is upset and unhappy over failure but does not go to pieces. Becomes depressed and needs encouragement to continue the task.	3
________	Is calm and matter-of-fact about most failures. Sets to work again without any fuss. If faced with repeated failure, changes his method of attack on the problem.	5
________	Becomes frantic and disturbed when faced with failures. Withdraws and refuses to continue the task or bangs things around in exasperation.	1

---

* Characteristic VI is not scored for adjustment.

VIII

Characteristic: Withdrawal from group.

Description: Tendency to withdraw from the group. This is indicated by evident preference for being alone.

Does the student spend most of his time in solitary activity, making few, if any, attempts to join the group, or does he spend a great deal of time in group activity?

Items:		*Adjustment Weight*
________	Is never alone, even when his task is an individual one. Is an active member of any group he is in.	4
________	Is constantly by himself. Never is a member of the group. Has no close friends in the group.	1
________	Divides his time between group and solitary activities. Seems happy and at ease in either direction.	6
________	Joins in group activity whenever there is an opportunity unless deeply involved in some particularly absorbing task of his own.	5
________	Tends to spend most of his time alone or with one or two particular friends. Never takes part in social activities.	3
________	Is unhappy and at a loss unless a member of the group. Cannot concentrate on an individual task. Compulsive seeking of others and joining with them.	2

IX

Characteristic: Compliance.

Description: Tendency to comply when asked to perform some tasks, whether this is a routine or a special task.

Does he drop whatever he is doing at the moment to comply immediately, or does he always refuse to do what is asked as a matter of course?

Items:		*Adjustment Weight*
________	Complies readily with the demands made, only delaying when his own activities conflict. Never refuses completely.	4
________	Complies when his own task is not interfered with. Delays or refuses to comply when deeply involved in some other task.	5
________	Refuses or delays as a matter of course, whether the requested activity interferes with his own activity or not. Requires "handling" to be gotten through the requested activity without a squabble.	1
________	Balks at any demand which interferes with his own activity. Flatly refuses or delays; puts it off.	3
________	Complies immediately and without hesitation. Drops own activity at once, no matter how deeply involved. Never refuses.	2

X

Characteristic: Use of capacity.

Description: Tendency not to make use of his capacities.

Does he seem capable of much better work than he is doing, or does he seem to be trying to do much better work than he is capable of, setting himself too high standards, "biting off more than he can chew"?

Items:		*Adjustment Weight*
________	Seems capable of much better work than he does regularly. Does not seem to put much effort into his activities, nor to attempt anything that is at all challenging.	1.5
________	Works to capacity without much effort. Seems to enjoy doing his best. Accepts his limitations and does not try to exceed them.	4
________	Seems to be working up to capacity some of the time, but does much work that is below his real capacity.	3
________	Pushes himself far beyond his capacity. Does not face his limitations nor seem to be conscious of them. Attempts to do more than he is capable of. May or may not be tense or seem to fear failure.	1.5

XI

Characteristic: Emotional sensitivity.

Description: Tendency to become emotionally aroused; sensitivity to emotional stimulation, whether this is of a positive or negative nature (enjoyment or displeasure).

Does he react readily to situations which are potentially exciting, laughing easily, crying easily, or does he never seem to react to such situations, rarely showing any emotional involvement? Do not consider here the intensity of the response to the stimulation, but simply the student's tendency to respond at all.

Items:		*Adjustment Weight*
________	Never seems aware of emotional situations. Is never involved emotionally.	1
________	Responds only to intense stimulation.	2
________	Responds immediately to any sort of emotional situation. Is keenly aware of emotional nuances. Becomes emotionally involved in almost any situation (pleased, excited, etc.)	3
________	Becomes involved easily but is not continually responding.	4

XII

Characteristic: Responsiveness to emotional stimulation.

Description: Tendency to respond to emotional situations, regardless of whether he responds frequently or rarely.

When he does respond to an emotional situation, does he react strongly, becoming very elated, very excited, very depressed, or very angry, or does he show only a superficial reaction, quickly recovering from loss of temper, showing only mild pleasure, etc.?

Items:		*Adjustment Weight*
________	Reacts strongly but does not become extremely upset or lose control.	3
________	Reacts to a degree that is characteristic for persons of his age.	4
________	Reacts violently when angered, excited, and/or pleased. Flies off the handle when angry.	1
________	Responds only mildly; never shows a great deal of enthusiasm. Emotions are of short duration and weak intensity.	2

XIII

Characteristic: Moodiness.

Description: Stability of mood.

Is he generally even-tempered and stolid or is he subject to wide and/or frequent fluctuations of mood?

Items:		*Adjustment Weight*
________	Varies between periods of extreme elation and depression. Frequent shifts of mood so that it is usually difficult to tell just how he is to be handled.	1
________	Has changes of mood but is happy or depressed only as the conditions warrant. Changes can be predicted from what has happened to him.	4
________	Is generally stolid and sometimes even stoic in temperament. Changes in mood are rare and degree of perceptible change is small.	2
________	Changes in mood are strong and frequent but not usually extreme. Sometimes difficult to predict how he will react to things.	3

XIV

Characteristic: Cooperativeness.

Description: Tendency to be willing to compromise with other students and cooperate in activities.

Does he tend to pull together with the rest of the group and is agreeable to suggestions or does he insist on his own way of doing something, creating impasses in the activity of the group?

Items:		*Adjustment Weight*
________	Insists that his ideas are the only ones worthy of serious consideration. Will not compromise a point at an impasse. Often heckles the group rather than attempting to help solve a problem.	1
________	Reluctant to yield to the suggestions of others but does so when sufficient pressure is brought to bear. May not continue to contribute toward the solution of the problem but does not obstruct the group.	2
________	Will drop his own ideas immediately if confronted by an opposing opinion or idea. Works with little or no regard for himself in participating in group activities.	3
________	Usually places the common goal of the group before his own personal ends. Engages in free "give and take" with the group but almost always favors the idea which will benefit the majority of the group.	5
________	Is occasionally "difficult", but often will work toward the common goal of the group.	4

XV

Characteristic: Popularity.

Description: Tendency to be popular. Think in terms of other students seeking him out as a companion or friend in addition to the number of friends he has.

Is he sought out by others and does he interrelate with many students or does he tend to have only a few friends, being rejected by others?

Items:		*Adjustment Weight*
________	Is accepted by most other students. Other students tend to greet him in a friendly manner and he is not generally excluded from their activities.	3
________	Has few friends. Although not openly rejected, other students do not seem to pick him as a friend. Their attitude is one of tolerance rather than acceptance.	2
________	Is outstandingly popular. Is sought as a friend by most students and is generally liked by all.	4
________	Is openly rejected and avoided by other students. Few, if any, seem to like him or tend to seek him out.	1

XVI*

Characteristic: Intelligence.

Please base this estimate on your own judgment rather than on school records.

		Adjustment Weight
________	Below average	1
________	Average	2
________	Better than average	3

XVII*

Characteristic: Personal Adjustment.

		Adjustment Weight
________	Good	2
________	Poor	1

XVIII

Characteristic: Judgment.

		Adjustment Weight
________	Good	2
________	Poor	1

APPENDIX F

Instructions to Judges: SPT-B Test

In the following pages, you will find a series of pictures depicting parent-child interactions or relating to parent-child interactions. Accompanying each picture is a series of eight possible perceptions that a child might have of the situation. Please read each of these possible perceptions carefully and decide the following:

If the response indicates that the child *perceives a rejecting attitude* on the part of the parent, encircle R. If the response indicates that the child *perceives an accepting attitude* on the part of the parent, encircle A. If the response indicates that the child *perceives an overprotective attitude* on the part of the parent, encircle O. If the response indicates that the child *perceives an attitude of pity* on the part of the parent, encircle P. If you cannot decide which of the four attitudes a child perceives, encircle the "?." Please encircle only *one* of the five possibilities next to each response. *It would be helpful if you would encircle as few "?" as possible.*

---

* Characteristics XVI, XVII are not scored for adjustment.

Please read the following CAREFULLY! These are the descriptions of the four above-mentioned parental attitudes which the child can perceive.

Perceived rejecting: The parent who is overtly rejecting tends to ignore the child as an individual, shows undisguised hostility, and neglects the child. Neglect may be in terms of physical and/or emotional needs. The achievements of the child are belittled and ridiculed, and negative statements about the child are common. The parent expresses a marked degree of irritability at the responsibilities associated with the care of the child. Contact with the child beyond the barest essentials is resented and in some cases attending to even these needs is viewed with resentment. The rejecting parent considers the "good" child to be the child who demands the least parental time and tends to disclaim responsibility for the child's behavior. The parent is disinterested in the child's activities and interests. In general, there is dissatisfaction with the role of being a housewife or mother. Rejection of the homemaking role is reflected in the annoyance with the duties of caring for home and children.

Perceived accepting: The accepting parent is one who recognizes and respects the individuality of the child. This is manifested in such a way as permitting the development of interests and tastes (and showing an interest in them) which may not be in accord with the parent's own interests and tastes; allowing the child to choose his own friends; and accepting opinions different from the parent's own. Independence and self-reliance are condoned and fostered. The child is given a sense of importance through a respect for his opinions and possessions by fostering his participation in family matters which concern him and by focusing on the child's goals and aspirations rather than those of the parents. The child is not the agent whereby the parent's own needs and aspirations find expression.

Perceived overprotective: The overprotecting parent unduly emphasizes the affectional bonds between parent and child and exaggerates the duties of the parent. Dependence of the child on the parent is highly valued and the parent tends to "baby" him. The parent continues to feed, dress, etc., the child long after he is physically able to do these things for himself. The parent is oversolicitous and overanxious over the child's welfare. Certain foods may be "pushed" on the grounds that they are healthy. Contact with peers is limited and sexual curiosity and behavior is taboo. The surface impression is that of a "good mother." This mother wants to know everything that the child is thinking and doing. There is no attempt to foster independence or self-reliance in the child. Indulgence in self pity and martyrdom is common along with an emphasis on "sacrifices" for the good of the child. The parent often gives in easily to the child's wishes but expresses feelings of guilt over the handling of the child.

Perceived pity: The parent is very sympathetic in a rather emotional way, is obviously very conscious of any difficulty the child might have, but is nevertheless warm in his feelings for the child.

APPENDIX G

Situations Projective Test B: Instructions to Children; Options; Pictures

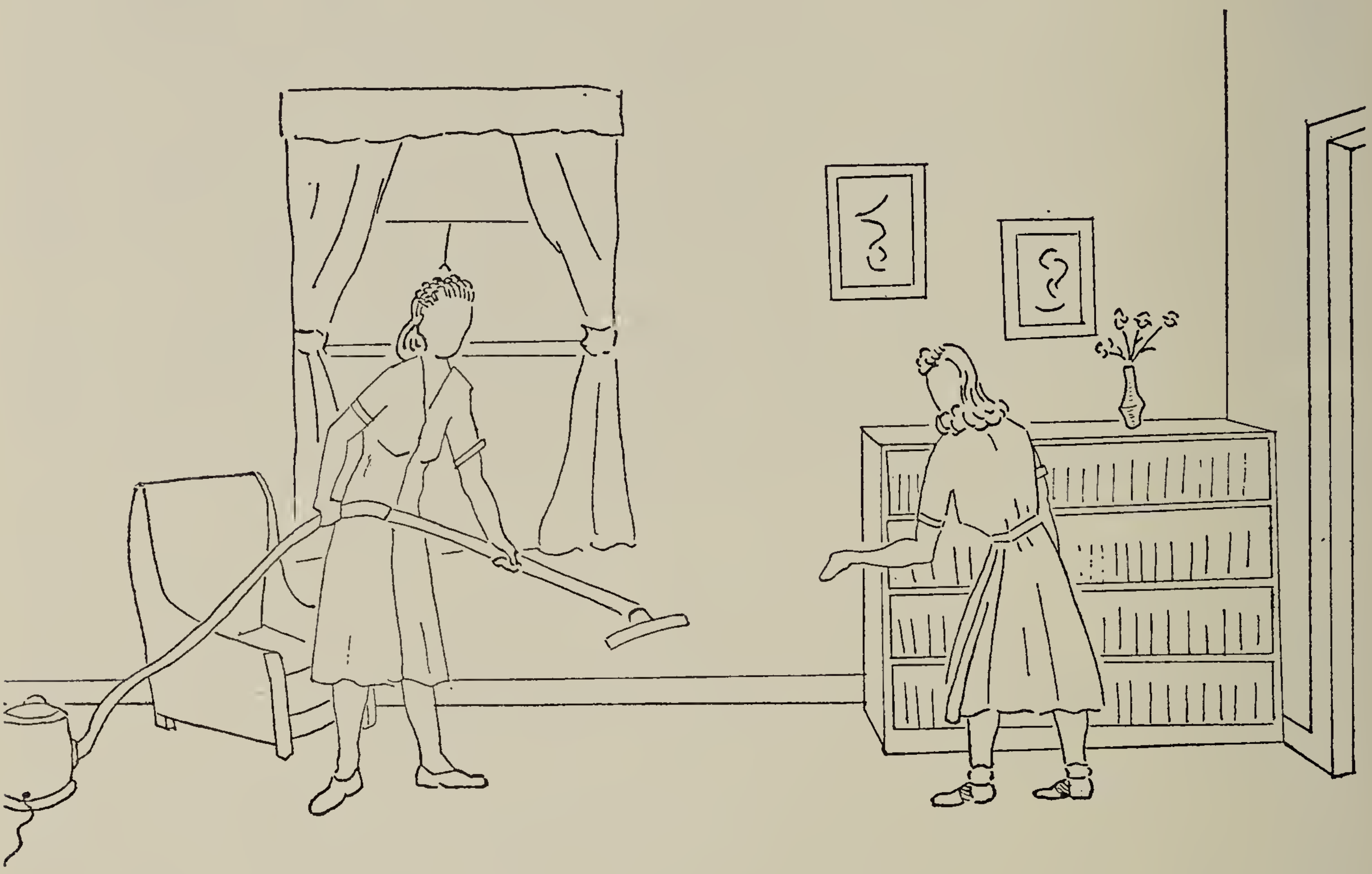
I have a series of 12 situations which I will read to you. Each of them describes a scene in which there are two or more people. Following each situation, I will read to you four choices of what might be happening in the scene. Listen to each very carefully as I read them to you. There are no right or wrong answers. What I want you to do is to pick out the one which best describes what is going on in the scene. (S does this.) Now I am going to read you the remaining choices and I want you to pick out the one of these which best describes what is going on in the scene. (Same procedure is followed until all four options are ranked.)

Now we are going to do the same thing for the next situation. Pick out the one which you think best describes what is going on in the scene. (Same procedure is followed until options have been ranked for all 12 situations.)

OPTIONS TO BE RANKED FOR SITUATIONS PROJECTIVE TEST B

_Perceived Attitude_*

I. Mother and daughter are standing in room. Mother has vacuum cleaner in hand. Daughter is facing mother.



I

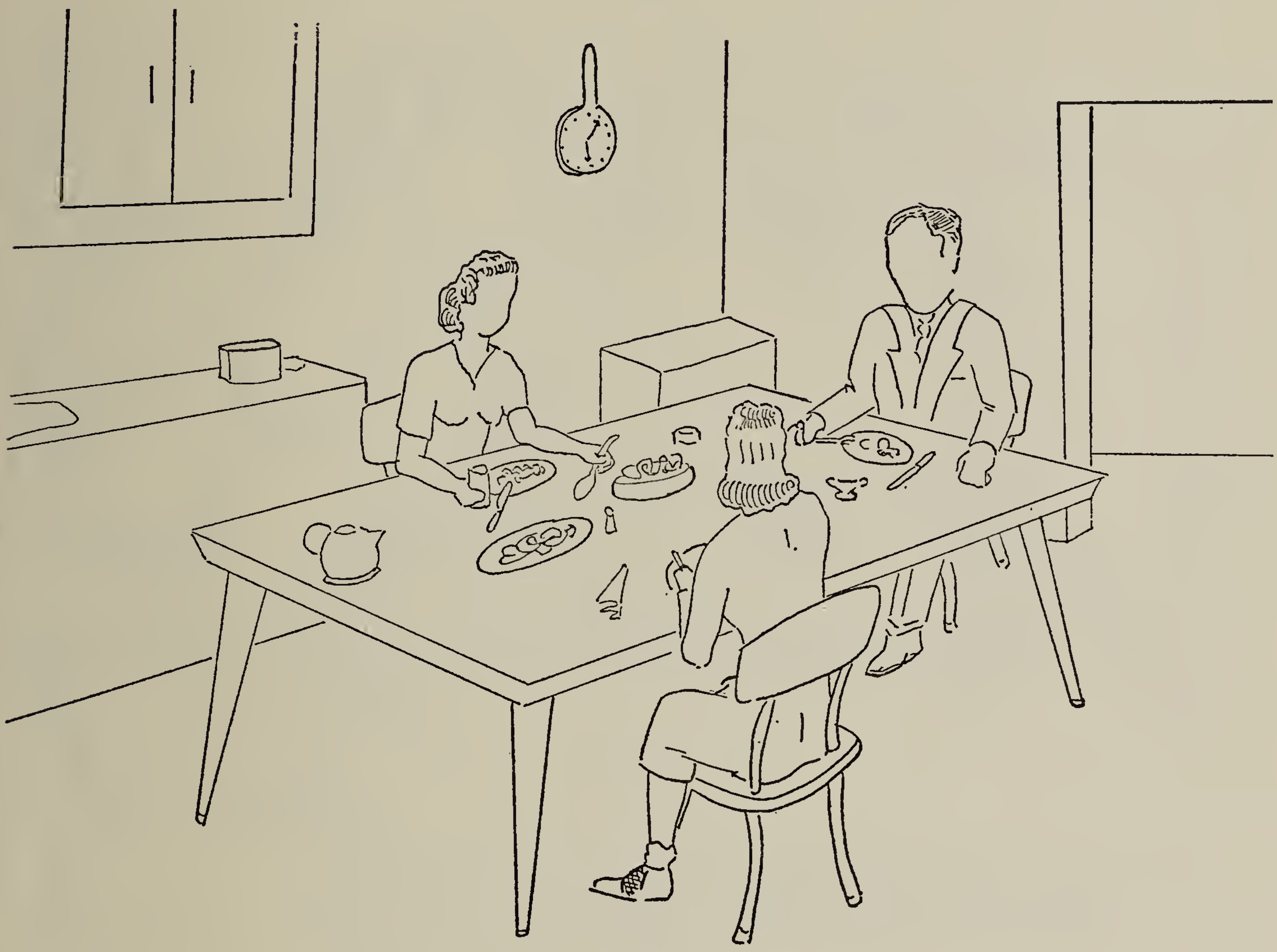
R	A. Daughter feels that mother does not like the way she cleans house.
P	B. Daughter knows mother is sad because of a disappointment she has had at school.
O	C. Daughter feels that mother should let her clean her own room.
A	D. Daughter feels that mother appreciates her helpful house-cleaning suggestions.

---

* P: Pity; O: Overprotection; R: Rejection; A: Acceptance.

Options to be Ranked for Situations Projective Test B—*Continued*

II. Mother, father, and daughter are seated around dinner table. Food is on the table.



II

*Perceived Attitude**	
O	A. Daughter is taking vegetables at her mother's suggestion.
A	B. Daughter knows that her parents are enjoying the story she is telling.
R	C. Daughter wishes her parents would stop to hear her point of view.
P	D. Daughter feels her parents think it is a real pity that she was not voted into the club.

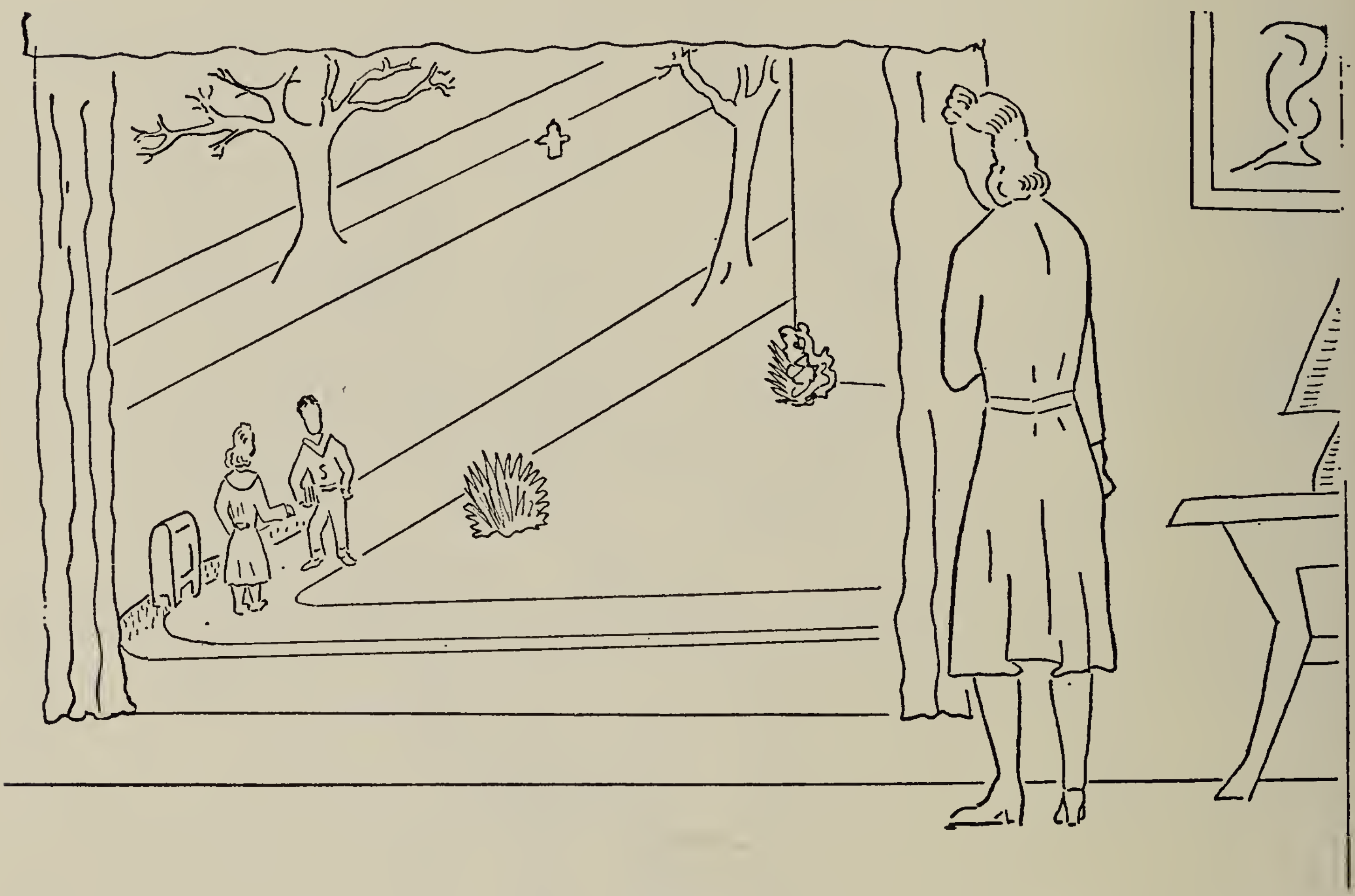
---

* P: Pity; O: Overprotection; R: Rejection; A: Acceptance.

Options to be Ranked for Situations Projective Test B—*Continued*

*Perceived Attitude**

III. Mother is standing at large window at home looking out at her son who is standing on the street corner talking to a girl. The girl is wearing a coat; son is wearing sport sweater.



III

*Perceived Attitude**	
O	A. Son is hoping that his mother won't embarrass him by bringing his coat out to him.
R	B. Son is thinking that his mother will not approve of this girl.
P	C. Son knows his mother will feel sorry for him because the girl refused his invitation.
A	D. Son knows that his mother will like this girl.

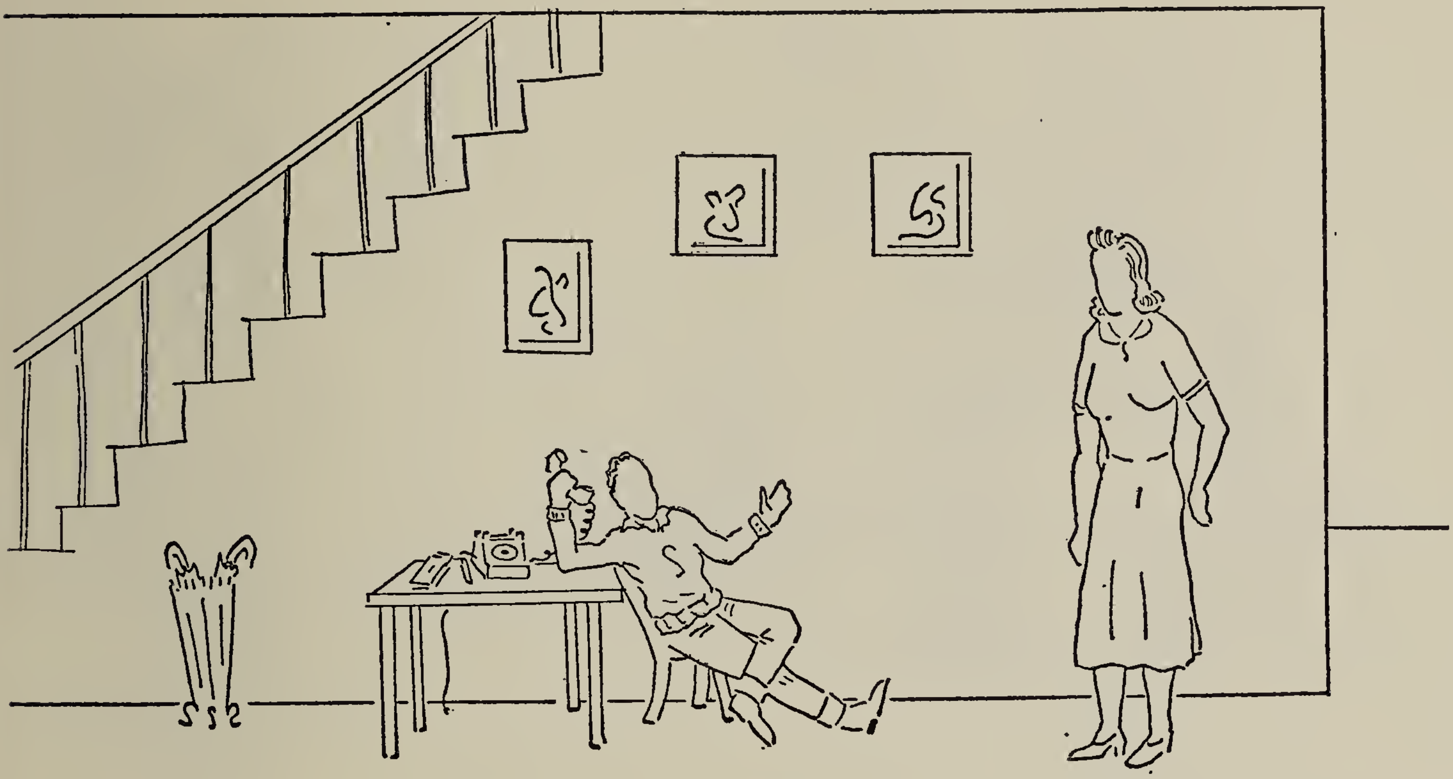
---

* P: Pity; O: Overprotection; R: Rejection; A: Acceptance.

Options to be Ranked for Situations Projective Test B—*Continued*

Perceived
*Attitude**

IV. Son is seated at phone table with phone receiver in hand. Mother is standing facing him. His face is turned towards her.



IV

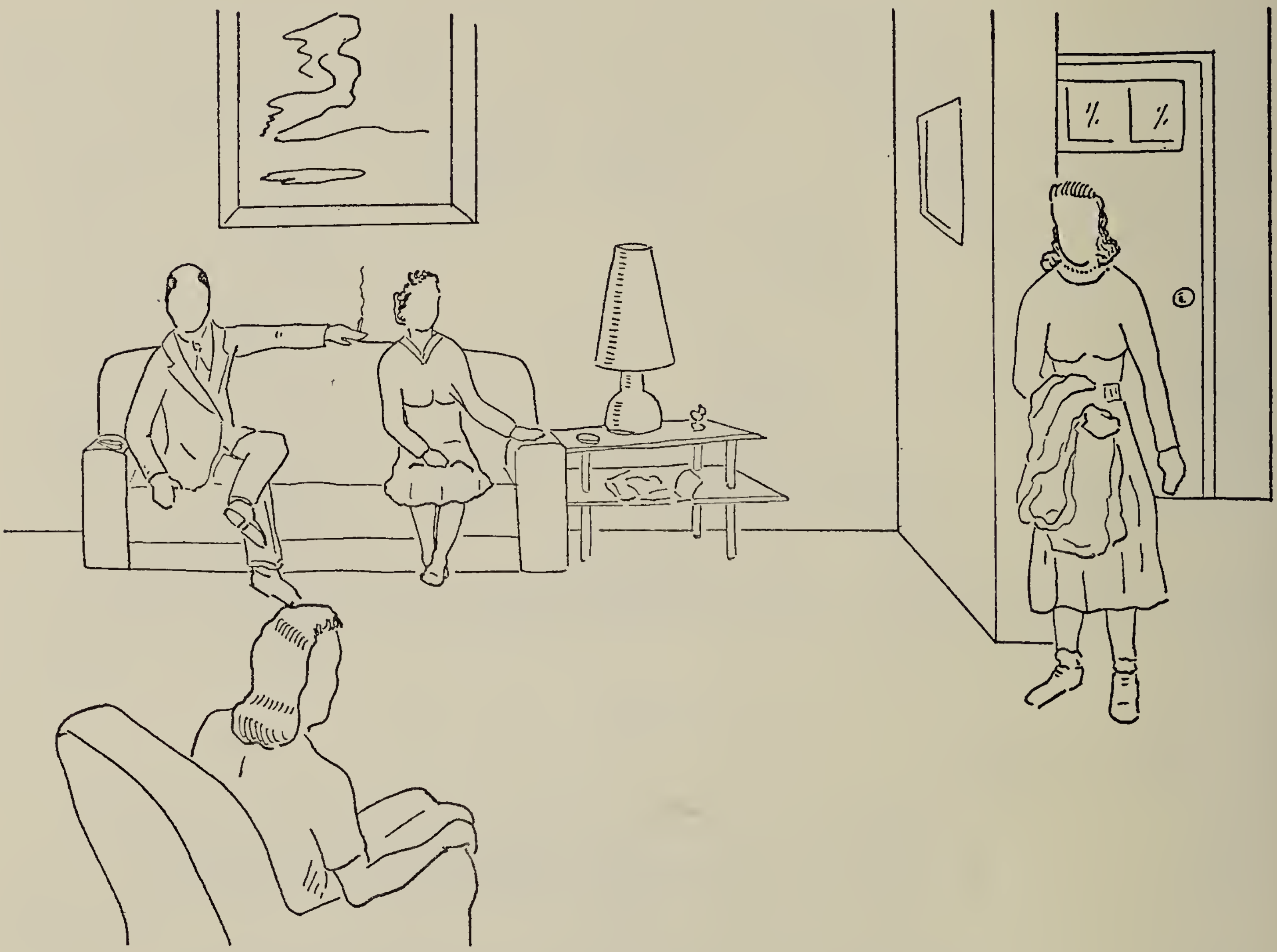
P	A. Mother is sorry for him because he has been disappointed.
R	B. Son feels that his mother disapproves of his language.
A	C. Son knows that mother will be pleased to hear that he has invited his girl to dinner.
O	D. Son feels that mother is too interested in his plans.

---

* P: Pity; O: Overprotection; R: Rejection; A: Acceptance.

Options to be Ranked for Situations Projective Test B—*Continued*

V. Two adults (man and woman) are seated on couch in the living-room. Mother is seated in an easy chair. All are looking toward the doorway where daughter is standing with her coat over her arm.



V

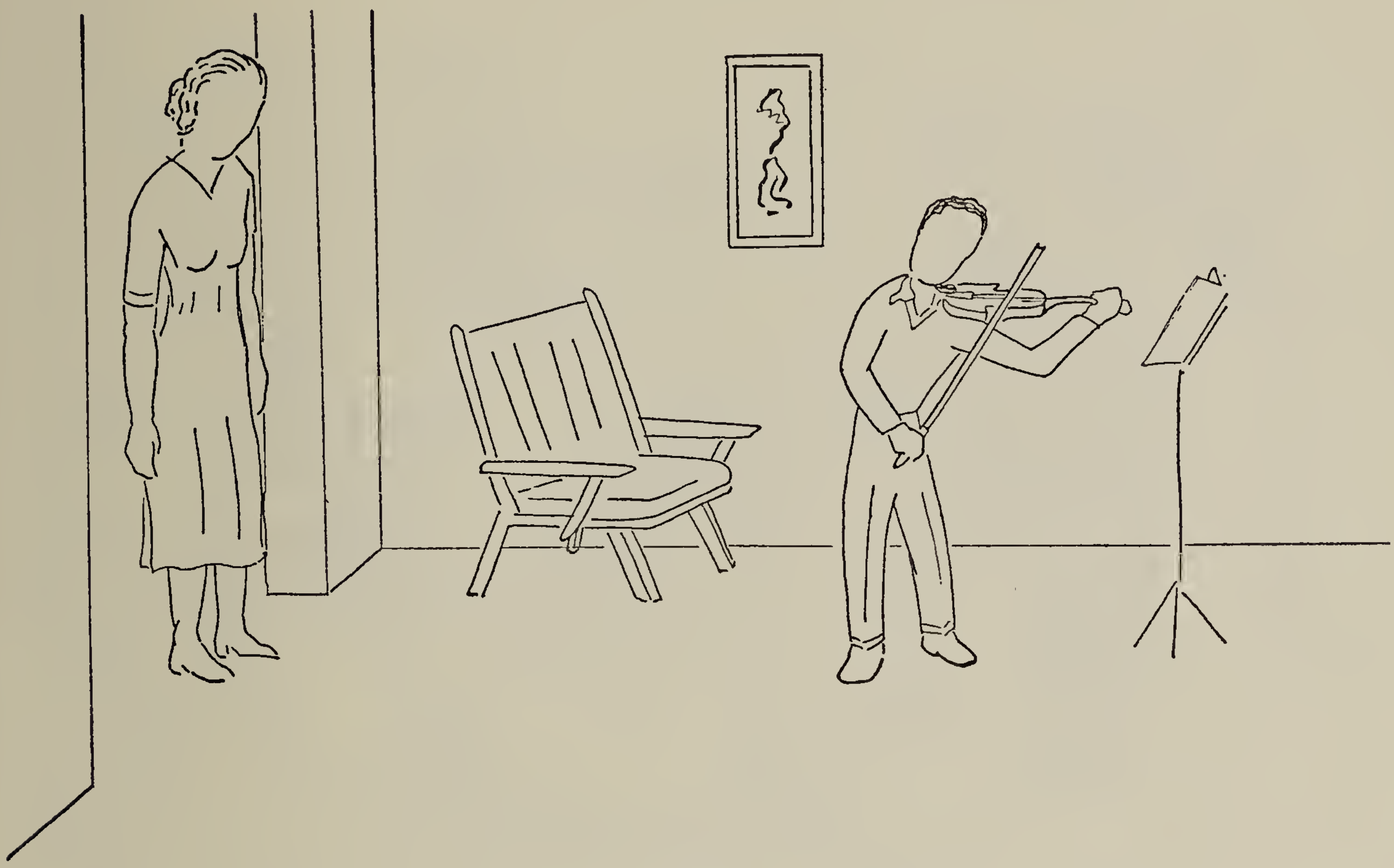
*Perceived Attitude**	
O	A. Daughter wishes that mother would stop treating her like a child in front of people.
R	B. Daughter realizes that mother is annoyed at her interruption.
A	C. Daughter feels welcome in the group.
P	D. Daughter wishes that they would stop feeling sorry for her because she could not go to the dance.

---

* P: Pity; O: Overprotection; R: Rejection; A: Acceptance.

Options to be Ranked for Situations Projective Test B—*Continued*

VI. Son is standing with back to doorway, playing the violin. Mother is standing in the doorway, facing into the room.



VI

*Perceived Attitude**	
A	A. Son feels that mother enjoys his playing as much as he does.
P	B. Son is wishing that mother would not feel so sorry for him when he has trouble with his lesson.
R	C. Son feels that mother is impatient for him to stop practicing so she can have some quiet.
O	D. Son knows what mother has given up to buy him the violin he wanted.

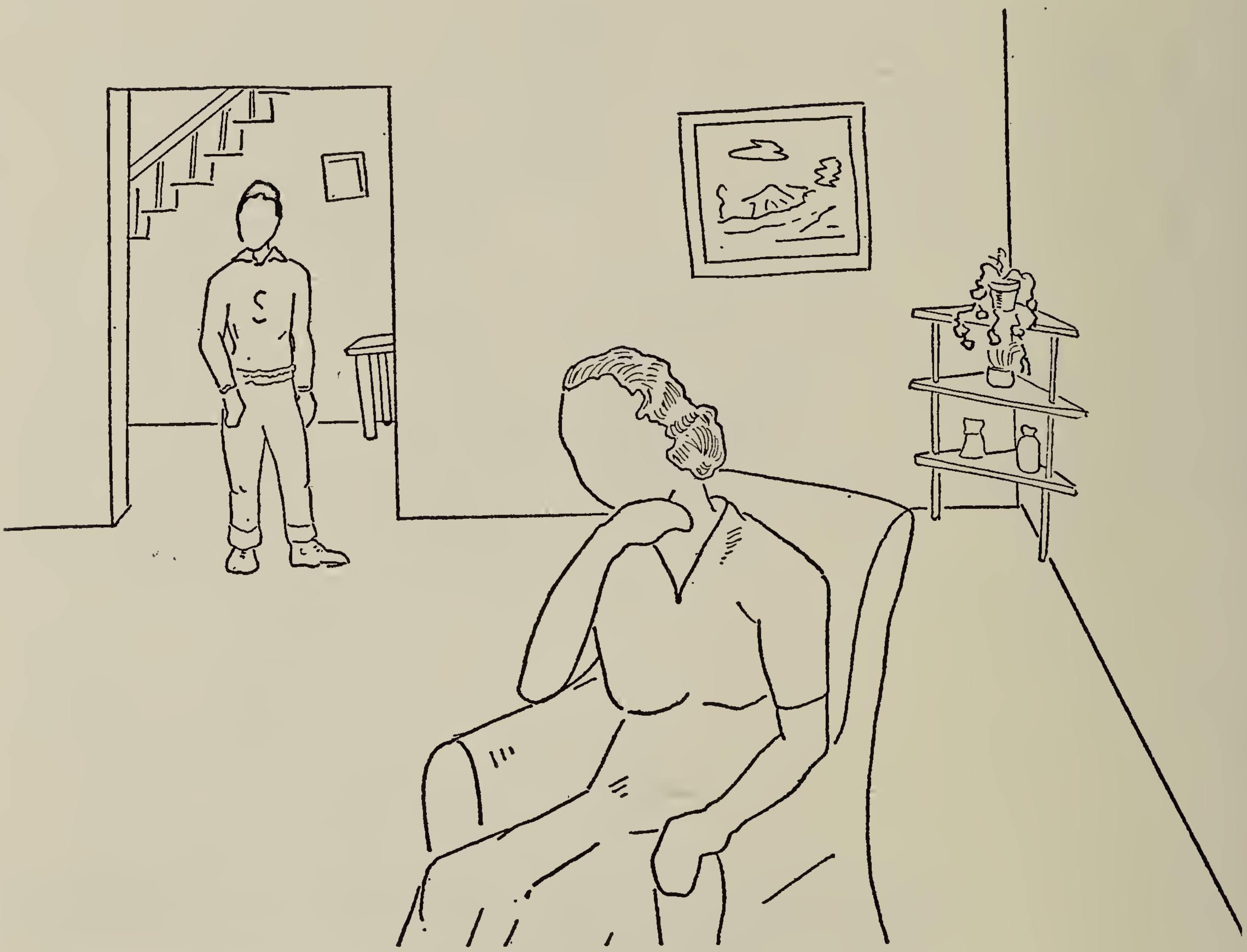
---

* P: Pity; O: Overprotection; R: Rejection; A: Acceptance.

Options to be Ranked for Situations Projective Test B—*Continued*

*Perceived Attitude**

VII. Mother is seated in chair, with her back to the doorway. Her hand is on her chin. Son is standing in the doorway behind her, facing into the room.



VII

O	A. Son wishes that mother would treat him more like a grown-up.
P	B. Son feels he could do with less pity when he has difficulties.
R	C. Son is wondering why mother talks to him so little.
A	D. Son knows that mother will like the friend he has asked to the family picnic.

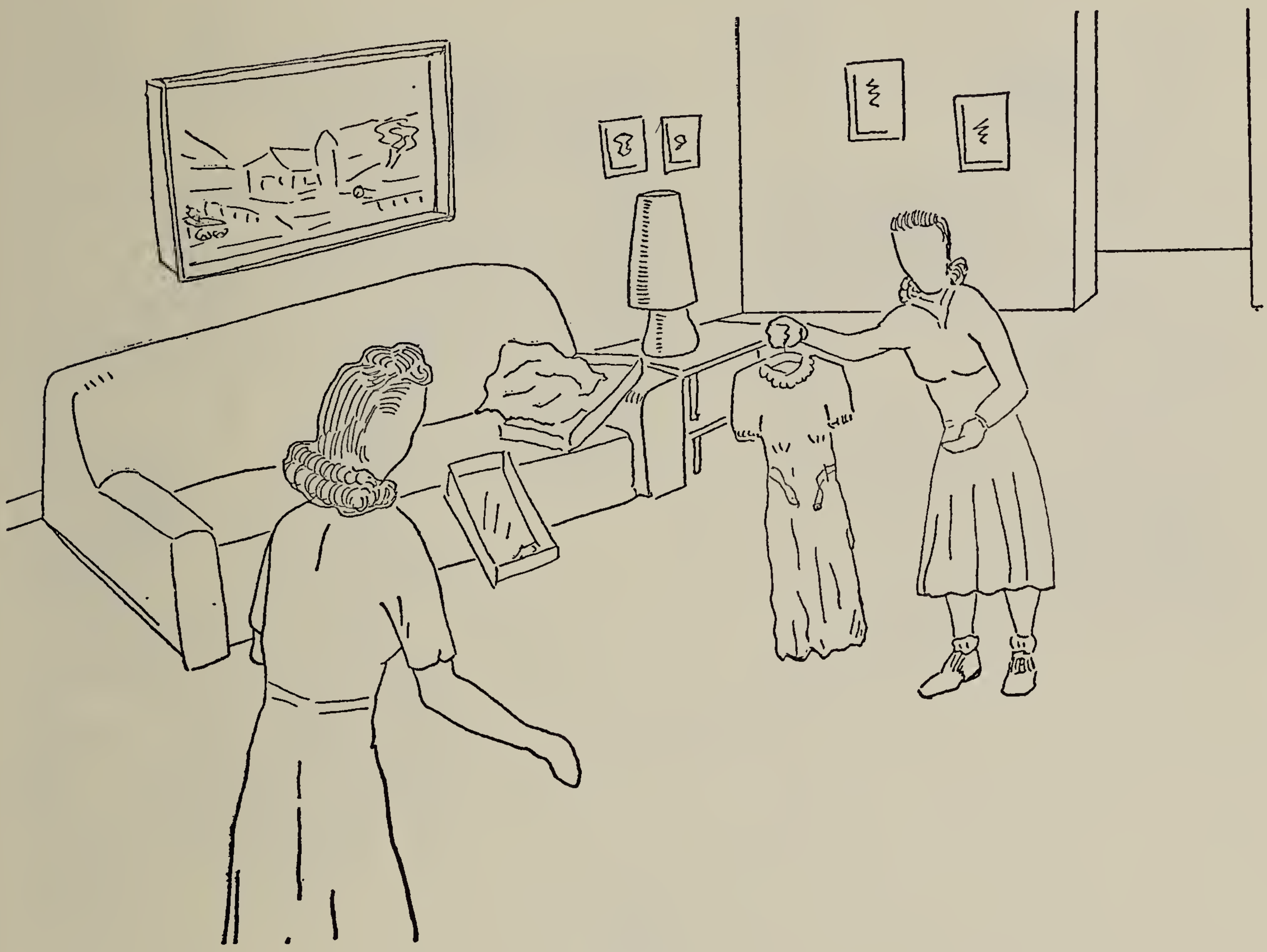
---

* P: Pity; O: Overprotection; R: Rejection; A: Acceptance.

Options to be Ranked for Situations Projective Test B—*Continued*

Perceived
*Attitude**

VIII. Daughter is holding a new dress up for her mother to see. The box from which it was taken is open on the couch. Mother and daughter are standing, facing each other.



VIII

P	A. Daughter feels that mother is being overly-sympathetic with her difficulty in making a choice.
O	B. Daughter wonders why mother does not let her buy more grown-up clothes.
A	C. Daughter knows that mother will like her ideas for trimming her new dress.
R	D. Daughter feels that mother does not like her taste in clothes.

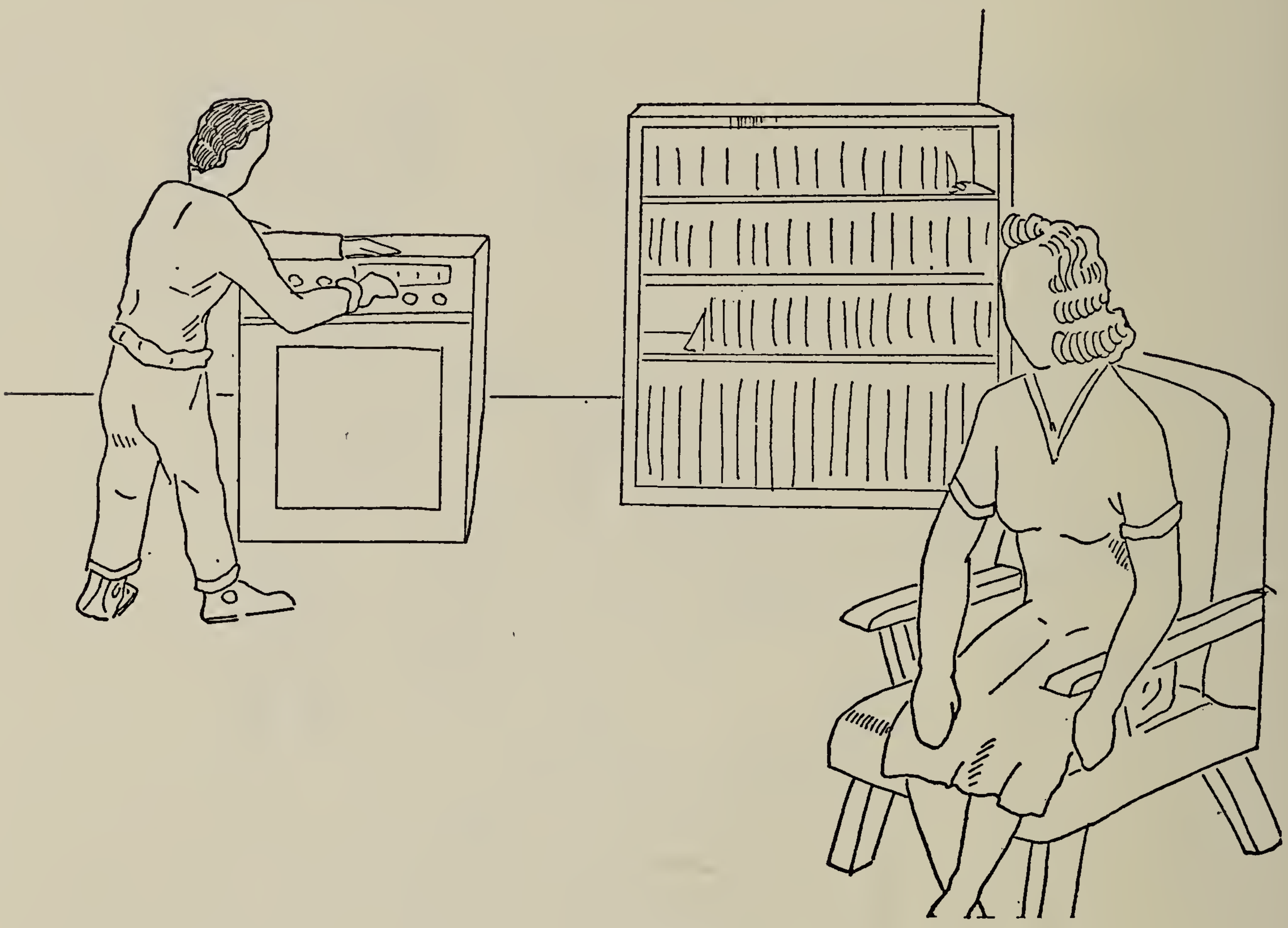
---

* P: Pity; O: Overprotection; R: Rejection; A: Acceptance.

Options to be Ranked for Situations Projective Test B—*Continued*

*Perceived Attitude**

IX. Son is adjusting radio set. Mother is seated in a chair, her head turned toward her son.



IX

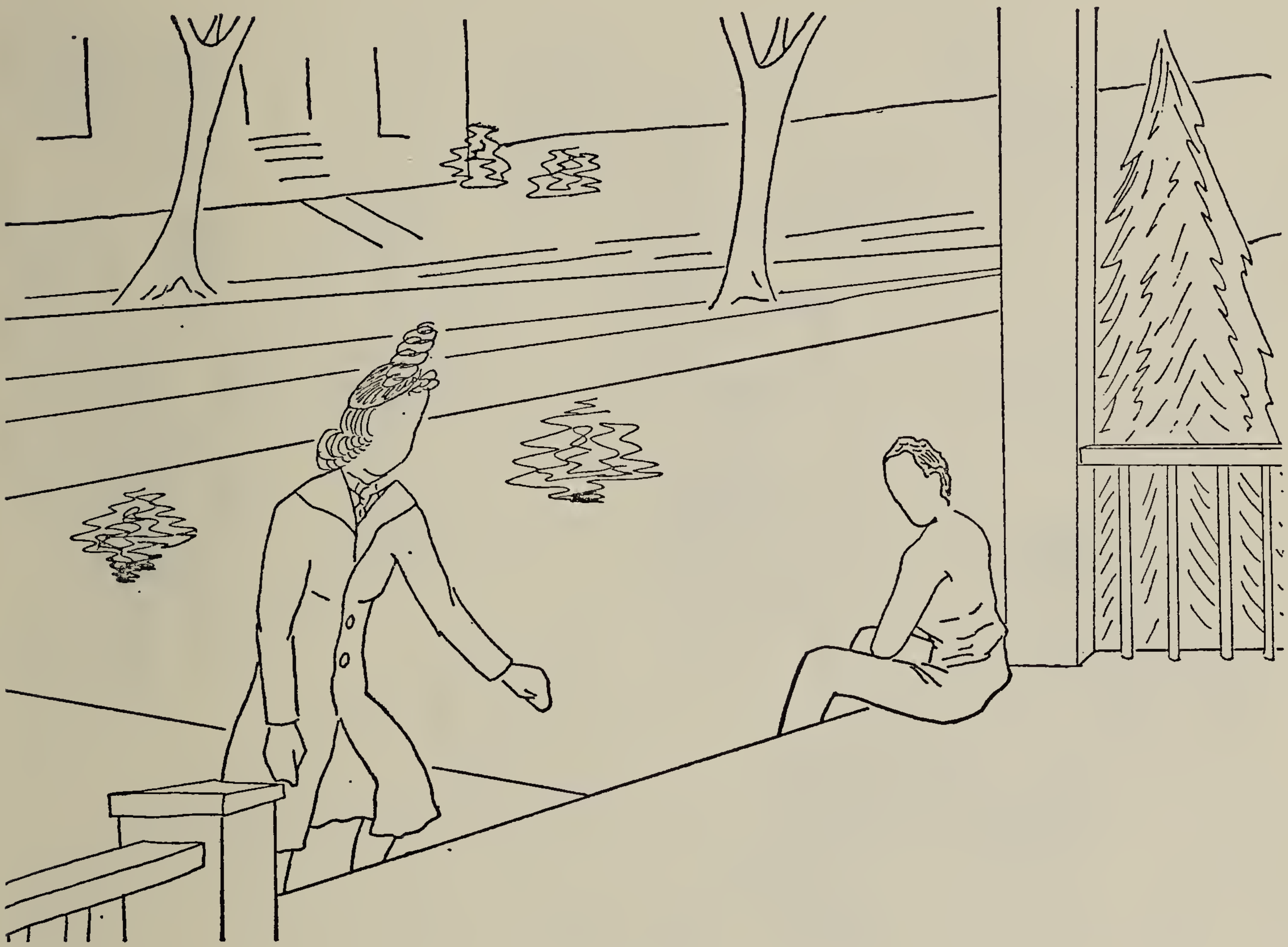
A	A. Son knows that mother will like the program that he has been telling her about.
R	B. Son wonders why mother usually objects to his playing the radio.
P	C. Son feels that mother pities him whenever he has difficulties of any kind.
O	D. Son wishes that mother would realize that he has adult tastes now.

---

* P: Pity; O: Overprotection; R: Rejection; A: Acceptance.

Options to be Ranked for Situations Projective Test B—*Continued*

X. Son is seated on the top step of the porch. His head is turned toward his mother who is just coming up the steps.



X

*Perceived Attitude**	
R	A. Son is wondering why mother usually forgets when they make plans to do something together.
O	B. Son is wishing that mother would not always hurry home just for him.
P	C. Son feels that mother is sorry for him because he has nothing to do.
A	D. Son knows that mother will be pleased to have his girl over for supper.

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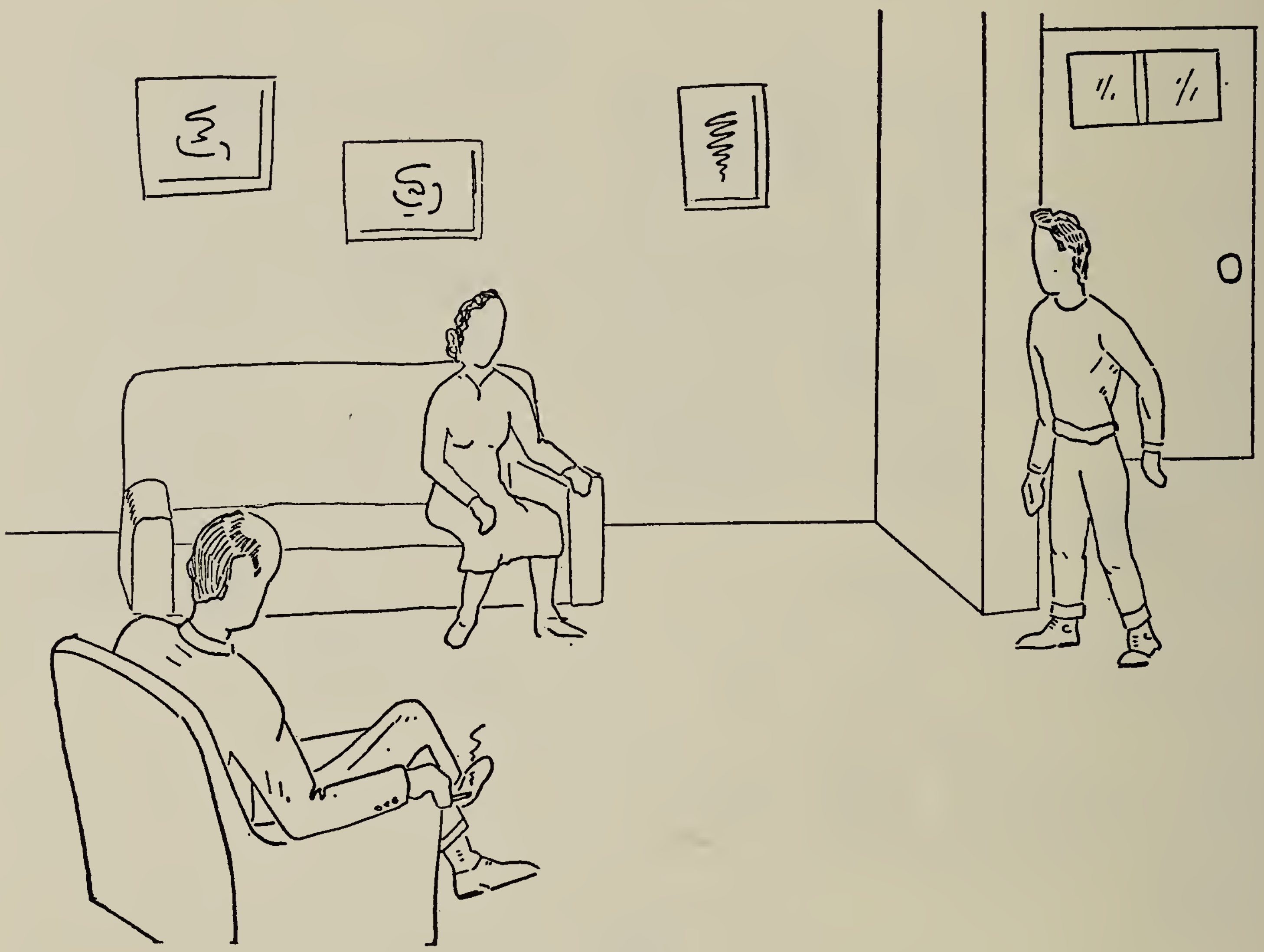
* P: Pity; O: Overprotection; R: Rejection; A: Acceptance.

Options to be Ranked for Situations Projective Test B—*Continued*

XI. Mother and father are seated in the livingroom, facing the doorway. Son is standing in the doorway, facing into the room.



XI

*Perceived Attitude**	
P	A. Son gets the impression that his parents are feeling sorry for him because of his trouble with schoolwork.
A	B. Son knows his parents will be interested in his point of view.
O	C. Son is wondering why his parents are always so concerned about his health.
R	D. Son wishes his parents would include him in family discussions.

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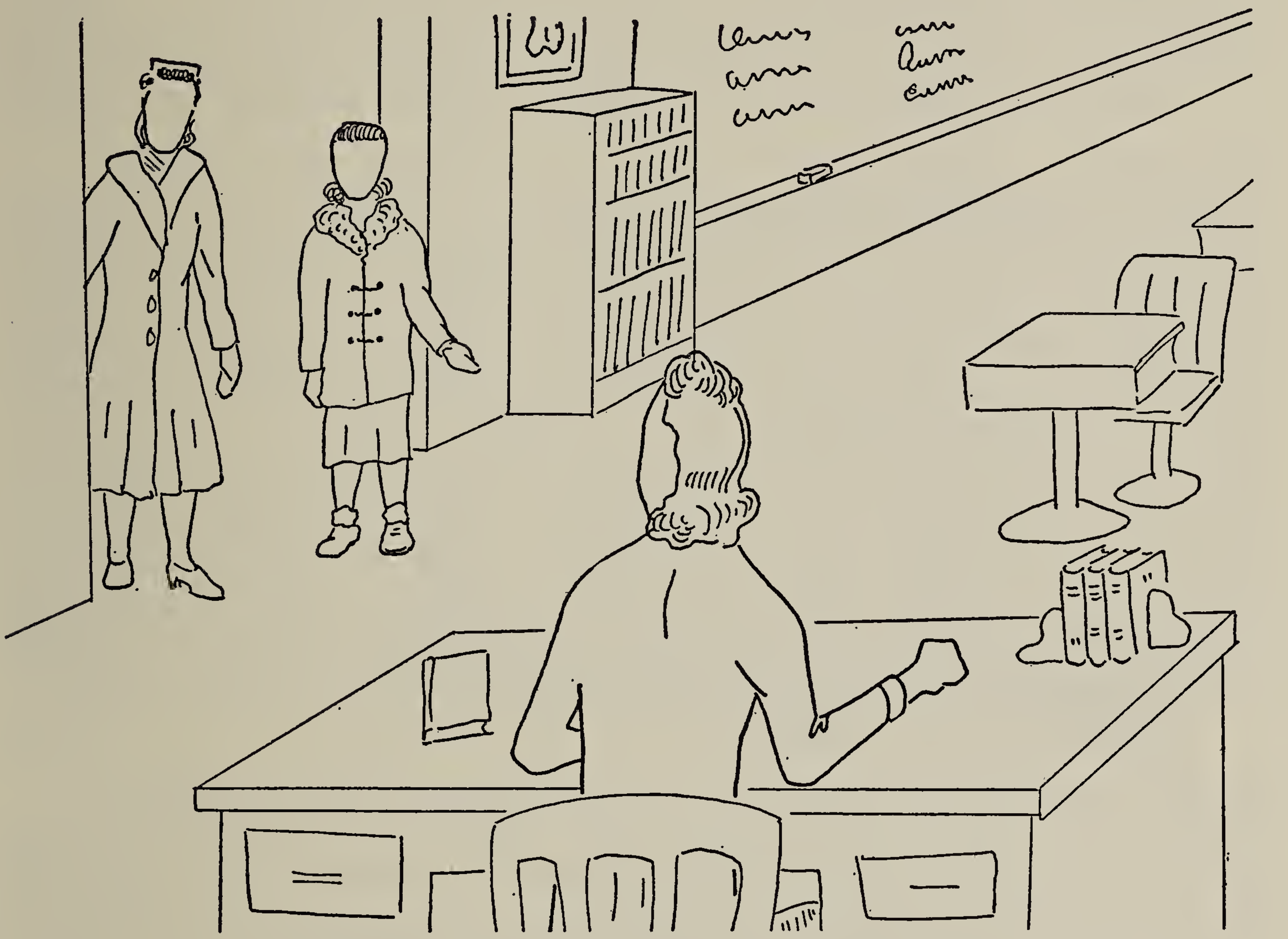
* P: Pity; O: Overprotection; R: Rejection; A: Acceptance.

Options to be Ranked for Situations Projective Test B—*Continued*

XII. Mother and daughter are standing together in the doorway of an empty classroom. Teacher, seated at desk, is facing them.



XII

*Perceived Attitude**	
P	A. Daughter feels that mother is sorry for her going to a school like this.
A	B. Daughter knows that mother will like her favorite teacher.
R	C. Daughter expects that mother will complain about her to the teacher.
O	D. Daughter wishes that mother would not pick her up at school everyday.

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* P: Pity; O: Overprotection; R: Rejection; A: Acceptance.

APPENDIX H

Split-half Reliability Coefficients of SPT-B (child), SPT-B (mother), and SPT-A (mother) for E_1, C. and E_2 Groups*

	E_1	C	E_2
SPT-B (child)			
P	.38[a]	.87[a]	.04
O	.44[a]	.42[a]	.03
R	.67[a]	.71[a]	.26[b]
A	.72[a]	.85[a]	.62[a]
SPT-B (mother)			
P	.65[a]	.53[a]	.49[a]
O	.07	.33[b]	.21
R	.62[a]	.68[a]	.61[a]
A	.84[a]	.81[a]	.73[a]
SPT-A (mother)			
D	.38[a]	.07	.04
O	.26[b]	.12	.36[a]
R	.70[a]	.41[a]	.66[a]
A	.77[a]	.63[a]	.43[a]

* Corrected by the use of Spearman-Brown formula.
[a] Significant *p* .01 or beyond.
[b] Significant at *p* .05 or beyond.

APPENDIX I

Definitions of PARI and SPT-A Variables

Dominance: The dominant parent has a strong tendency to place the child in a distinctly subordinate role. The child is taken into account (as distinguished from the rejecting parent), but only as one who should conform completely to the parent's wishes. The parent values obedience and respect for authority highly and excludes outside influences so that his own authority is not threatened. Choice of action on the part of the child is minimal. The interests and aspirations of the parent are placed before those of the child, as are their preferences (clothes, etc.). The child must conform to the ambitions and expectations of the parent. Severe punishment is likely to follow nonconformity to the parent's wishes. Emotionally, the child is permitted very little latitude since a set pattern of what a child should be and feel is established.

Overprotection: The overprotective parent unduly emphasizes the affectional bonds between parent and child and exaggerates the duties of the parent. Dependence of the child on the parent is highly valued and the parent tends to "baby" him. The parent continues to feed, dress, etc., the child long after he is physically able to do these things for himself. The parent is oversolicitous and overanxious over the child's welfare. Certain foods may be "pushed" on the grounds that they are healthy. Contact with peers is limited and sexual curiosity and behavior are taboo. The surface impression is that of a "good mother." This mother wants to know everything that the child is thinking and doing. There is no attempt to foster independence or self reliance in the child. Indulgence in self-pity and martyrdom is common along with an emphasis on "sacrifices" for the good of the child. The parent often gives in easily to the child's wishes, but expresses feelings of guilt over the handling of the child.

Rejection: The parent who is overtly rejecting tends to ignore the child as an individual, shows undisguised hostility and neglects the child. Neglect may be in terms of physical and/or emotional needs. The achievements of the child are belittled and ridiculed, and negative statements about the child are common. The parent expresses a marked degree of irritability at the responsibilities associated with the care of the child. Contact with the child beyond the barest essentials is resented and in some cases, attending to even these needs is viewed with resentment. The rejecting parent considers the "good" child to be the child who demands the least parental time and tends to disclaim responsibility for the child's behavior. The parent is disinterested in the child's activities and interests. In general, there is dissatisfaction with the role of being a housewife or a mother. Rejection of the homemaking role is reflected in the annoyance with the duties of caring for home and children.

Acceptance: The accepting parent is one who recognizes and respects the individuality of the child. This is manifested in such ways as permitting the development of interests and tastes (and showing an interest in them) which may not be in accord with the parent's own interests and tastes; allowing the child to choose his own friends and accepting opinions different from the parent's own. Independence and self-reliance are condoned and fostered. The child is given a sense of importance through a respect for his opinions and possessions, by fostering his participation in family matters which concern him and by focussing on the child's goals and aspirations rather than those of the parents. The child is not the agent whereby the parent's own needs and aspirations find expression.

APPENDIX J

Instructions to Judges of Attitudes to Blindness Items

On the following pages are a number of statements that a person could make about the blind. Please read the items carefully and indicate whether you think that the statement reflects a positive or negative attitude toward the blind. Do this by encircling "P" for positive attitude or

"N" for negative attitude. If you cannot decide between positive or negative, encircle the question mark (?). Please try to make as few "?" responses as possible. Thank you.

APPENDIX K

Attitudes to Blindness Items with Item-Test Correlations and Directions of Scoring

Nbr. in Master Scale	*Item*	*Correl.*	*Direction*
2.	A blind person might as well accept the fact that blindness makes people pretty helpless.	.67	N*
5.	Most blind people feel that they are worthless.	.67	N
8.	A blind person should not have to meet the same standards as others.	.49	N
14.	Most blind people are dissatisfied with themselves.	.67	N
22.	The blind have as many interests as the sighted have.	.45	P
24.	Many blind people are economically independent.	.56	P
28.	It is possible to know the beauty of the world without sight.	.44	P
30.	It makes me feel a little guilty to know that I can see and others cannot.	.55	N
32.	Acceptance of blindness is the same as acceptance of anything else in life.	.55	P
38.	The blind adult is not quite as mature or "grown-up" as the sighted adult.	.59	N
40.	Most blind people think and act alike.	.46	N
41.	It is very difficult to make a blind person change his mind once he has decided on something.	.52	N
53.	One can live in a competitive society and still compete successfully without sight.	.50	P
55.	A blind person can never really be happy.	.48	N
57.	Blind people are more easily upset than sighted people.	.75	N
67.	It's difficult to understand the blind because they keep so much to themselves.	.67	N
71.	It must be bitterly degrading for a blind person to depend so much on others.	.44	N
75.	Blind people are constantly worried about the future.	.70	N
85.	On the whole, blind children seem to be less intelligent than sighted children.	.46	N
94.	I feel that blindness is as hard to bear as complete paralysis.	.60	N
96.	A blind person can't afford to talk back to people.	.59	N
101.	You should not expect too much from a blind person.	.61	N

* N indicates keying unfavorable attitude for agreement; P indicates keying unfavorable attitude for disagreement.

Appendix K—*Continued*

Nbr. in Master Scale	*Item*	*Correl.*	*Direction*
110.	Blindness does not change the person any more than any other physical handicap.	.64	P
121.	Blindness has little or no effect upon intelligence.	.52	P
123.	A blind person is constantly worried about what might happen to him.	.74	N
125.	A blind person is not afraid to express his feelings.	.45	P
129.	Blind people are used to failing in most of the things they do.	.62	N
131.	My attitude towards a blind person would be based more upon his personality than upon the fact that he is blind.	.52	P
142.	There are things worse than being blind.	.52	P
144.	Blind people do not have as much initiative as sighted people.	.46	N

Appendix L

Master Scale: Final Form with Sub-Scales Indicated

Read each of the statements below and then rate them as follows:

A	*a*	*d*	*D*
strongly agree	mildly agree	mildly disagree	strongly disagree

Indicate your opinion by drawing a circle around the "A" if you strongly agree, around the "a" if you mildly agree, around the "d" if you mildly disagree, and around the "D" if you strongly disagree.*

There are no right or wrong answers, so answer according to your own opinion. It is very important that all questions be answered. Some of the statements may seem alike but all are necessary to show slight differences of opinion.

*Sub-Scale***	
PARI	1. When you do things together, children feel close to you and can talk easier.
AB	2. A blind person might as well accept the fact that blindness makes people pretty helpless.

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* Following each item the letters A, a, d and D appeared on the scales which the Ss responded to. The S encircled one of these to indicate his response.

** PARI: Parental Attitudes Research Instrument
AB: Attitudes to Blindness Scale
AM: Anti-Minority Scale
F: F-Scale

APPENDIX L—*Continued*

*Sub-Scale***	
PARI	3. Children are actually happier under strict training.
PARI	4. It's natural to have quarrels when two people who both have minds of their own get married.
AB	5. Most blind people feel that they are worthless.
PARI	6. There are many children who get along all right on their own and don't need suggestions from parents.
PARI	7. Mothers sacrifice almost all their own fun for their children.
AB	8. A blind person should not have to meet the same standards as others.
PARI	9. Parents should know better than to allow their children to be exposed to difficult situations.
PARI	10. Parents who start a child talking about his worries don't realize that sometimes it's better to just leave well enough alone.
PARI	11. Children will get on any woman's nerves if she has to be with them all day.
PARI	12. A baby needs rest more than anything else so mother shouldn't pick them up unless it's necessary.
PARI	13. Most mothers are fearful that they may hurt their babies in handling them.
AB	14. Most blind people are dissatisfied with themselves.
PARI	15. Working alone and without help is often a very satisfying experience for a child.
PARI	16. Children who take part in sex play become sex criminals when they grow up.
PARI	17. A mother should most of all be just another pal to her children.
PARI	18. A child will do what he wants to do no matter what you think you are teaching him.
F	19. Obedience and respect for authority are the most important virtues children should learn.
PARI	20. If a mother doesn't go ahead and make rules for the home, the children and husband will get into troubles they don't need to.
PARI	21. Most young mothers are bothered more by the feeling of being shut up in the home than by anything else.
AB	22. The blind have as many interests as the sighted have.
F	23. Sex crimes, such as rape and attacks on children, deserve more than mere imprisonment; such criminals ought to be publicly whipped, or worse.
AB	24. Many blind people are economically independent.
PARI	25. One of the worst things about taking care of a home is that a woman feels that she can't get out.
PARI	26. Children have a right to activities which do not include their parents.
F	27. There is hardly anything lower than a person who does not feel a great love, gratitude, and respect for his parents.
AB	28. It is possible to know the beauty of the world without sight.

** PARI: Parental Attitudes Research Instrument
AB: Attitudes to Blindness Scale
AM: Anti-Minority Scale
F: F-Scale

Appendix L—*Continued*

*Sub-Scale***	
PARI	29. A mother's greatest fear is that in a forgetful moment she might let something bad happen to the baby.
AB	30. It makes me feel a little guilty to know that I can see and others cannot.
PARI	31. Strict discipline develops a fine strong character.
AB	32. Acceptance of blindness is the same thing as the acceptance of anything else in life.
F	33. Nobody ever learned anything really important except through suffering.
AM	34. Any group or social movement which contains many foreigners should be watched with suspicion, and whenever possible, be investigated by the FBI.
PARI	35. Sex is one of the greatest problems to be contended with in children.
F	36. Human nature being what it is, there will always be war and conflict.
F	37. Some people are born with the urge to jump from high places.
AB	38. The blind adult is not quite as mature or "grown-up" as the sighted adult.
PARI	39. Mothers often worry that people playing with the baby might be too rough.
AB	40. Most blind people think and act alike.
AB	41. It is very difficult to make a blind person change his mind once he has decided on something.
PARI	42. Parents deserve the highest esteem and regard of their children.
PARI	43. An alert parent should try to learn all her child's thoughts.
PARI	44. A child will be grateful later on for strict training.
PARI	45. The child should not question the thinking of his parents.
F	46. Nowadays when so many different kinds of people move around and mix together so much, a person has to protect himself especially against catching an infection from them.
PARI	47. Mothers very often feel that they can't stand their children a moment longer.
PARI	48. Children need some of the natural meanness taken out of them.
F	49. An insult to our honor should always be punished.
PARI	50. Having to be with the children all the time gives a woman the feeling her wings have been clipped.
PARI	51. One of the bad things about raising children is that you aren't free enough of the time to do just as you like.
PARI	52. A mother has to do the planning because she is the one who knows what's going on in the house.
AB	53. One can live in a competitive society and still compete successfully without sight.
PARI	54. Children should be more considerate of their mothers since their mothers suffer so much for them.

** PARI: Parental Attitudes Research Instrument
AB: Attitudes to Blindness Scale
AM: Anti-Minority Scale
F: F-Scale

Appendix L—*Continued*

*Sub-Scale***	
AB	55. A blind person can never really be happy.
PARI	56. The trouble with giving attention to children's problems is they usually just make up a lot of stories to keep you interested.
AB	57. Blind people are more easily upset than sighted people.
PARI	58. No matter how well a married couple love one another, there are always differences which cause irritation and lead to arguments.
F	59. The businessman and the manufacturer are much more important to society than the artist and the professor.
PARI	60. Handling a baby too much makes him spoiled and demanding.
PARI	61. The child should be taught to revere his parents above all other grown-ups.
PARI	62. The experience of being on their own is often good for children.
PARI	63. Parents who are interested in hearing about their children's parties, dates, and fun help them grow up right.
AM	64. Puerto Ricans are all right in their place, but they carry it too far when they dress lavishly, buy good cars, and go around with white girls.
AM	65. One main difficulty with allowing the entire population to participate fully in government affairs (voting, jobs, etc.) is that such a large percentage is innately deficient and incapable.
PARI	66. All young mothers are afraid of their awkwardness in handling and holding the baby.
AB	67. It's difficult to understand the blind because they keep so much to themselves.
PARI	68. Children should fear their parents to some degree.
F	69. Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down.
PARI	70. Children who are held to firm rules grow up to be the best adults.
AB	71. It must be bitterly degrading for a blind person to depend so much on others.
PARI	72. A baby really doesn't appreciate or enjoy the baby talk or attention of adults half as much as parents think.
PARI	73. A child should be protected from jobs which might be too tiring or hard for them.
F	74. What this country needs most, more than laws and political programs, is a few courageous, tireless, devoted leaders in whom the people can put their faith.
AB	75. Blind people are constantly worried about the future.
PARI	76. It is a mother's duty to make sure she knows a child's innermost thoughts.
PARI	77. A parent should never be made to look wrong in a child's eyes.
F	78. Every person should have complete faith in some supernatural power whose decisions he obeys without question.
F	79. The wild sex life of the old Greeks and Romans was tame compared to some of the goings-on in this country, even in places where people might least expect it.

** PARI: Parental Attitudes Research Instrument
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F: F-Scale

APPENDIX L—*Continued*

*Sub-Scale***	
AM	80. Certain religious sects whose beliefs do not permit them to salute the flag should be forced to conform to such a patriotic action, or else be abolished.
PARI	81. More parents should teach their children to have unquestioning loyalty to them.
PARI	82. Playing with a baby too much should be avoided since it excites them and they won't sleep.
PARI	83. Most children should have more discipline than they get.
PARI	84. It is frequently necessary to drive the mischief out of a child before he will behave.
AB	85. On the whole, blind children seem to be less intelligent than sighted children.
PARI	86. Children should be kept away from all hard jobs which might be discouraging.
AM	87. The many faults, and the general inability to get along, of the Puerto Ricans who have recently flooded New York, prove that we ought to send them back where they came from as soon as conditions permit.
PARI	88. Children should be given a chance to try out as many things on their own as possible.
PARI	89. If more people would have fun with their children, the children would be more apt to take their advice.
F	90. Some day it will probably be shown that astrology can explain a lot of things.
F	91. Science has its place, but there are many important things that can never possibly be understood by the human mind.
PARI	92. It is very important that young boys and girls not be allowed to see each other completely undressed.
PARI	93. Parents should sacrifice everything for their children.
AB	94. I feel that blindness is as hard to bear as complete paralysis.
F	95. No sane, normal, decent person could ever think of hurting a close friend or relative.
AB	96. A blind person can't afford to talk back to people.
PARI	97. Children would be happier and better behaved if parents would show an interest in their affairs.
PARI	98. A married woman knows that she will have to take the lead in family matters.
PARI	99. The natural way for a young child to grow up is with very little direction from his parents.
PARI	100. A mother should make it her business to know everything her children are thinking.
AB	101. You should not expect too much from a blind person.
PARI	102. A small child's wild play ties a mother's nerves in knots.
PARI	103. A wise parent will teach a child early just who is boss.
PARI	104. A young mother feels "held down" because there are lots of things she wants to do while she is young.

** PARI: Parental Attitudes Research Instrument
AB: Attitudes to Blindness Scale
AM: Anti-Minority Scale
F: F-Scale

APPENDIX L—*Continued*

*Sub-Scale***	
PARI	105. It's natural for a mother to "blow her top" when children are selfish and demanding.
PARI	106. If you let children talk about their troubles they end up complaining even more.
PARI	107. Children and husbands do better when the mother is strong enough to settle most of the problems.
PARI	108. There are some things which just can't be settled by a mild discussion.
PARI	109. A mother should do her best to avoid a disappointment for her child.
AB	110. Blindness does not change the person any more than any other physical handicap.
F	111. A person who has bad manners, habits, and breeding can hardly expect to get along with decent people.
PARI	112. A mother must expect to give up her own happiness for that of her child.
F	113. If people would talk less and work more, everybody would be better off.
F	114. Homosexuals are hardly better than criminals and ought to be severely punished.
PARI	115. A wise parent knows better than to pick up the baby whenever he cries.
PARI	116. A child should be allowed to try out what it can do at times without the parents watching.
PARI	117. A child should never keep a secret from his parents.
PARI	118. Sometimes it's necessary for a wife to tell off her husband in order to get her rights.
PARI	119. The whole family does fine if the mother puts her shoulder to the wheel and takes charge of things.
PARI	120. Some children are so naturally headstrong that a parent can't really do much about them.
AB	121. Blindness has little or no effect upon intelligence.
PARI	122. Mothers never stop blaming themselves if their babies are injured in accidents.
AB	123. A blind person is constantly worried about what might happen to him.
F	124. What youth needs most is strict discipline, rugged determination, and the will to work and fight for family and country.
AB	125. A blind person is not afraid to express his feelings.
AM	126. Many political parties would tend to confuse national issues, add to the expense of elections, and raise unnecessary agitation. For this and other reasons, it would be best if all political parties except the two major ones were abolished.
PARI	127. There is usually something wrong about a child who asks a lot of questions about sex.

** PARI: Parental Attitudes Research Instrument
AB: Attitudes to Blindness Scale
AM: Anti-Minority Scale
F: F-Scale

Appendix L—*Continued*

*Sub-Scale***	
PARI	128. Laughing at children's jokes and telling children jokes makes things go more smoothly.
AB	129. Blind people are used to failing in most of the things they do.
PARI	130. Loyalty to parents comes before everything else.
AB	131. My attitude towards a blind person would be based more upon his personality than upon the fact that he is blind.
PARI	132. People who think they can get along in marriage without arguments just don't know the facts.
PARI	133. A good mother should shelter her child from life's little difficulties.
PARI	134. Children should realize how much parents have to give up for them.
PARI	135. Raising children is a nerve-wracking job.
PARI	136. As long as a baby isn't crying it's best to avoid disturbing him by picking him up.
PARI	137. A young child should be protected from hearing about sex.
PARI	138. If a child has upset feelings it is best to leave him alone and not make it look so serious.
PARI	139. A mother has the right to know everything going on in her child's life because her child is a part of her.
AM	140. Zootsuiters demonstrate that inferior groups, when they are given too much freedom and money, just misuse their privileges and create disturbances.
PARI	141. Some children are just so bad they must be taught to fear adults for their own good.
AB	142. There are things worse than being blind.
AM	143. The most vicious, irresponsible, and racketeering unions are, in most cases, those having largely foreigners for leaders.
AB	144. Blind people do not have as much initiative as sighted people.
PARI	145. Trying to help a child understand his fears most often makes the fear look more important than it is.
PARI	146. More parents should teach their children to have unquestioning loyalty to them.
PARI	147. Children should never learn things outside the home which make them doubt their parents ideas.
F	148. Familiarity breeds contempt.
PARI	149. There is nothing worse than letting a child hear criticisms of his mother.
PARI	150. There is no excusing someone who upsets the confidence a child has in his parent's ways of doing things.

** PARI: Parental Attitudes Research Instrument
AB: Attitudes to Blindness Scale
AM: Anti-Minority Scale
F: F-Scale

APPENDIX M

Instructions to Judges for SPT-A Options

In the following pages, you will find a series of pictures depicting parent-child interactions or relating to parent-child interactions. Accompanying each picture is a series of 8 possible responses a parent could make to that picture. Please read each of these responses carefully and decide the following:

If the response indicates a *dominating* attitude on the part of the parent, encircle D. If the response indicates a *rejecting* attitude on the part of the parent, encircle R. If the response indicates an *accepting* attitude on the part of the parent, encircle A. If the response indicates an *overprotective* attitude on the part of the parent, encircle O. If you cannot decide which of the four attitudes a particular response indicates (dominating, rejecting, accepting, overprotective) encircle the "?." Please encircle only *one* of the five possibilities next to each response. *It would be helpful if you would encircle as few "?" as possible.*

Please read the following carefully! These are the descriptions of the four above-mentioned parental attitudes.

Definitions of the four variables: Dominance, Overprotection, Rejection and Acceptance appear in Appendix K. Pictorial stimuli are the same as those used for SPT-B, presented in Appendix G.

APPENDIX N

SPT-A Options with Scoring Key

Card	*Option*	*Reflected* Attitude*
I	A. Mother has given up something she likes to do in order to clean house because daughter's friend will be visiting.	O
	B. Mother is keeping daughter home to help with the housecleaning.	D
	C. Mother and daughter are enjoying an afternoon of cleaning house together.	A
	D. Mother is cleaning house by herself because her daughter does not do a good enough job.	R
II	A. Parents are too busy with their discussion to hear their daughter's point of view.	R
	B. Parents are laughing at an amusing incident that daughter is relating.	A
	C. Mother is telling daughter that she cannot go out because she must straighten up her room.	D
	D. Mother is urging daughter to eat more vegetables because they are good for her health.	O

* D = dominance R = rejection
O = overprotection A = acceptance

APPENDIX N—*Continued*

Card	*Option*	*Reflected* Attitude*
III	A. Mother is thinking of taking her son's coat out to him.	O
	B. Mother is pleased that she taught her son to always be a gentleman.	D
	C. Mother is thinking that her son looks pretty sloppy to be talking to a girl.	R
	D. Mother is pleased that her son is becoming more interested in girls.	A
IV	A. Mother is pleased that son has invited his girl to dinner.	A
	B. Mother is thinking how pleasantly quiet it would be if her son went out.	R
	C. Mother wants to know which friend her son is talking to.	D
	D. Mother feels son is too tired to go out now.	O
V	A. Mother wants her daughter to wear a heavier coat.	O
	B. Mother is pleased her daughter could join them.	A
	C. Mother is pleased that she finally will have an evening alone with her friends.	R
	D. Mother is telling daughter what time she must be home.	D
VI	A. Mother is thinking it was worth the sacrifice to buy him the violin he wanted.	O
	B. Mother is hoping he will stop soon so she can listen to the radio.	R
	C. Mother is thinking he plays well for having studied for such a short time.	A
	D. Mother is glad that she insisted on his taking violin lessons.	D
VII	A. Mother is thinking that with children, parents have too little time for themselves.	R
	B. Mother is thinking how little her son needs her now that he is growing up.	O
	C. Mother is enjoying the new records her son bought for the house.	A
	D. Mother is deciding which college her son should go to.	D
VIII	A. Mother is too busy to spend time discussing daughter's new dress.	R
	B. Mother is happy that she bought a dress for her daughter instead of one for herself.	O
	C. Mother is insisting that daughter return the new dress.	D
	D. Mother and daughter are discussing what kind of trim would be nice.	A

* D = dominance R = rejection
O = overprotection A = acceptance

APPENDIX N—*Continued*

Card	*Option*	*Reflected* Attitude*
IX	A. Mother likes the set that her son has just bought with his allowance.	A
	B. Mother is telling son to turn to a program which she thinks would help him to develop his mind.	D
	C. Mother is thinking son always has the radio turned on too loudly.	R
	D. Mother is listening to her favorite program, but she does not mind son changing it to one he likes better.	O
X	A. Mother is wondering why son is sitting around when she left him a number of things to do.	D
	B. Mother is hurrying home so her son will not have to be alone.	O
	C. Mother has come home early because son wants to discuss something with her.	A
	D. Mother is late because she forgot that they had made plans to go downtown.	R
XI	A. Parents think their son is hurting his health by being so active.	O
	B. Parents have been talking about what a hard job it is to raise a family.	R
	C. Parents are asking son if he would be interested in going out to dinner that evening.	A
	D. Parents are telling son that he may not go out.	D
XII	A. Mother is coming in on Parents' Night to meet her daughter's favorite teacher.	A
	B. Mother wants to know why they are not more strict with the students at this school.	R
	C. Mother goes out of her way to pick up daughter after school.	O
	D. Mother has come in to plan her daughter's program with the teacher.	D

* D = dominance R = rejection
O = overprotection A = acceptance

APPENDIX O

Instructions to Subjects for SPT-A

Here are a series of 12 pictures. Each of them shows a scene in which there are two or more people. For each picture, there are four choices of what might be happening. Read each of them carefully. There are no right or wrong answers. What I want you to do is to pick out the one which best describes what is going on in the scene. Place a "1" on the line to the left of that choice. Now read the remaining choices and pick out the one of *these* which best describes what is going on in the scene. Place a "2" on the line to the left of this choice. Now read the remaining 2 choices. Which one of these 2 best describes what is going on in the scene? Place a "3" on the line to the left of that choice. The choice that remains will be number "4." When you are finished with a picture there should be a different number next to each choice.

Now we are going to do the same thing for the next picture, etc.

Appendix P

Instructions to Parents for the Self-Ideal Sort

Here is a list of six statements. Each one of these statements is something that your (son, daughter) could say about (himself, herself). This is not a test, so there are no right or wrong answers. Read each of the statements very carefully. What I want you to do is to pick out the statement which you think your (son, daughter) would pick as being *most like* (him, her). Place a "1" on the line to the left of that choice. Now read them again and pick out the one that you think your (son, daughter) would pick as being *least like* (him, her). Place a "6" on the line to the left of that choice. Now read the remaining four statements, and you pick the one of these which you think your (son, daughter) would pick as being *most like* (him, her). Place a "2" on the line to the left of that choice. Of the remaining statements, pick the one you think your (son, daughter) would pick as being *least like* (him, her). Place number "5" on the line to the left of that choice. (This procedure continues until the statements are ranked from one to six in each of ten blocks of statements).

Appendix Q

Instructions to Parents for the Situations Projective Test B

Here are a series of 12 pictures. Each of them shows a scene in which there are two or more people. For each picture, there are four choices of what might be happening. Read each of them carefully. There are no right or wrong answers. What I want you to do is to pick out the one which you think your (son, daughter) would pick as the one which best describes what is going on in the scene. Place a "1" in the box under the letter of your choice (A, B, C, or D). Now read the remaining choices and pick out the one of *these* which you think your (son, daughter) would pick as best describing what is going on in the scene. Place a "2" in the box under the letter of your choice. Now read the remaining two choices. Which one of these two do you think your (son, daughter) would pick as best describing what is going on in the scene? Place a "3" in the box under the letter of your choice. The choice that remains will be number "4." (Same procedure is followed for all 12 scenes.)

APPENDIX S

*Distribution of Visual Diagnoses for Experimental Groups**

Diagnosis	Group E_1				Group E_2		
	Tot. Blind	Leg. Blind	Part Sighted	Total	Tot. Blind	Leg. Blind	Total
Affections of the Cornea	1	0	0	1	0	0	0
Affections of the Lens	0	0	1	1	0	0	0
Albinism	1	2	6	9	0	1	1
Amblyopia	0	3	2	5	2	0	2
Anophthalmos, Microphthalmus, and Buphthalmus	2	0	1	3	5	0	5
Cataract	0	6	3	9	1	8	9
Chorioretinitis	1	0	1	2	0	2	2
Choroiditis	0	1	0	1	0	0	0
Colomba of the Iris	0	0	0	0	0	2	2
Degenerative Changes	0	1	3	4	2	0	2
Dislocated Lens	2	1	3	6	0	0	0
Glaucoma	1	1	0	2	2	2	4
Hyperopia	0	1	1	2	1	0	1
Keratitis, interstitial	0	1	0	1	0	0	0
Macular Aphasia	0	0	0	0	0	2	2
Myopia	0	3	7	10	0	0	0
Nystagmus, congenital	0	6	1	7	0	0	0
Optic Nerve Atrophy	1	1	2	4	1	4	5
Persistent Fetal Vitreal Membrane	0	0	0	0	1	0	1
Photophobia, extreme	1	0	0	1	0	0	0
Retinoblastoma	0	0	0	0	3	0	3
Retrolental Fibroplasia	1	0	0	1	11	5	16
Sympathetic Ophthalmia and Uveitis	1	0	0	1	1	0	1
No Diagnosis given	0	1	0	1	0	0	0
Total				71			56

* Visual diagnosis in each case as given on child's medical record.

Appendix U

Legend for Tables of Means, Sigmas, and Correlations

Number	*Variable*
1	Self-concept adjustment score (child)
2	Self-concept discrepancy score (child)
3	SPT_B—Perceived pity (child)
4	SPT_B—Perceived overprotection (child)
5	SPT_B—Perceived rejection (child)
6	SPT_B—Perceived acceptance (child)
7	Self-concept adjustment score (mother)
8	Self-concept adjustment score for dummy sort (mother)
9	SPT_B—Predicted pity (mother)
10	SPT_B—Predicted overprotection (mother)
11	SPT_B—Predicted rejection (mother)
12	SPT_B—Predicted acceptance (mother)
13	Teachers' behavior ratings
14	Index of socioeconomic status
15	IQ of child
16	Self-concept (mother-child discrepancy)
17	SPT_B—Pity (mother prediction minus child perceived)
18	SPT_B—Overprotection (mother prediction minus child perceived)
19	SPT_B—Rejection (mother prediction minus child perceived)
20	SPT_B—Acceptance (mother prediction minus child perceived)
21	"Dummy" sort (mother) minus self-concept (child)
22	"Dummy" sort (mother) minus ideal self (child)
23	"Dummy" sort (mother) minus child's self-concept (mother's prediction)
24	Child self-concept (mother's prediction) minus ideal self (child)
25	Master Scale—Dominance (mother)
26	Master Scale—Overprotection (mother)
27	Master Scale—Rejection (mother)
28	Master Scale—Acceptance (mother)
29	Master Scale—Anti-Minority (mother)
30	Master Scale—F (mother)
31	Master Scale—Attitudes to Blindness (mother)
32	SPT_A—Dominance (mother)
33	SPT_A—Overprotection (mother)
34	SPT_A—Rejection (mother)
35	SPT_A—Acceptance (mother)
36	Age of child in months
37*	Education level of child by grade
38	Sex (Male—1, Female—2)
39	Number of siblings
40	Mother's age in years
41	Mother's education in years
42	Mother's employment status (yes—1, no—2)

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* Variables 37-42 are not included in tables of means, sigmas, and correlations but are punched into IBM cards.

APPENDIX V

Means and Sigmas for 36 Child Adjustment, Parent Attitude, Parent Understanding and Control Variables

Group E_1—Total Visually Disabled Group Living at Home (N=71)
Group C —Total Control Group (N=40)
Group E_2—Total Visually Disabled Group Attending Residential Schools (N=56)

Variable	*Group*	*Mean*	*Sigma*	*Variable*	*Group*	*Mean*	*Sigma*
1	E_1	79.44	14.45	14	E_1	55.37	11.87
	C	82.85	13.61		C	50.48	11.52
	E_2	83.88	16.88		E_2	48.48	13.33
2	E_1	71.11	23.88	15	E_1	104.35	13.18
	C	79.08	21.76		C	104.62	14.89
	E_2	76.18	26.72		E_2	106.80	15.38
3	E_1	25.58	3.99	16	E_1	89.55	18.15
	C	23.88	3.74		C	86.60	18.68
	E_2	24.93	3.43		E_2	88.32	20.31
4	E_1	33.61	4.50	17	E_1	12.99	3.61
	C	32.92	3.96		C	11.98	2.89
	E_2	35.05	3.52		E_2	12.91	2.97
5	E_1	27.58	5.49	18	E_1	13.85	3.63
	C	29.82	5.82		C	13.52	3.02
	E_2	29.23	4.89		E_2	13.91	3.67
6	E_1	33.38	6.24	19	E_1	13.66	3.79
	C	33.12	6.36		C	14.15	2.57
	E_2	30.79	5.70		E_2	15.04	4.28
7	E_1	84.23	17.33	20	E_1	13.79	4.29
	C	78.45	12.52		C	14.40	4.98
	E_2	79.34	14.25		E_2	15.45	4.10
8	E_1	39.15	8.82	21	E_1	43.79	12.96
	C	36.82	6.28		C	44.12	12.62
	E_2	38.93	8.05		E_2	46.29	12.75
9	E_1	27.28	4.92	22	E_1	38.96	13.96
	C	25.78	4.37		C	38.20	10.86
	E_2	26.05	4.44		E_2	40.32	12.57
10	E_1	32.21	4.00	23	E_1	41.93	12.90
	C	32.95	3.83		C	37.10	10.36
	E_2	32.00	4.18		E_2	37.43	12.43
11	E_1	25.65	5.96	24	E_1	83.27	25.71
	C	26.00	5.60		C	78.20	18.66
	E_2	25.18	5.40		E_2	81.25	19.74
12	E_1	34.90	7.08	25	E_1	70.18	12.54
	C	35.28	6.58		C	70.15	13.58
	E_2	36.77	6.39		E_2	68.11	13.27
13	E_1	49.94	8.16	26	E_1	64.61	15.29
	C	52.00	6.43		C	61.85	14.28
	E_2	48.93	7.92		E_2	59.30	12.14

Appendix V—*Continued*

Variable	*Group*	*Mean*	*Sigma*	*Variable*	*Group*	*Mean*	*Sigma*
27	E_1	69.87	11.82	32	E_1	31.59	3.98
	C	71.50	12.06		C	31.25	3.65
	E_2	66.36	10.17		E_2	31.16	3.33
28	E_1	85.27	12.43	33	E_1	32.13	4.32
	C	88.02	12.64		C	32.55	3.25
	E_2	88.68	10.73		E_2	31.02	3.93
29	E_1	19.76	8.61	34	E_1	21.11	4.98
	C	19.75	5.95		C	20.92	4.88
	E_2	19.09	5.94		E_2	20.84	4.97
30	E_1	58.44	11.52	35	E_1	35.03	5.88
	C	60.20	9.46		C	35.02	5.09
	E_2	58.00	9.92		E_2	36.98	5.73
31	E_1	54.59	13.26	36	E_1	186.28	18.26
	C	56.18	10.40		C	188.20	16.35
	E_2	49.80	11.04		E_2	182.75	18.10

APPENDIX W_1

Full Intercorrelation Matrix—E_1 Group ($N=71$)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1		95[a]	12	14	34[a]	−47[a]	38[a]	18	03	−12	10	−05	−10	26[b]	−09	48[a]	14	07
2			11	14	30[a]	−42[a]	37[a]	18	03	−05	10	−08	−03	21	−04	45[a]	08	03
3				−14	−19	−34[a]	34[a]	05	01	−07	−09	10	−15	04	−03	06	19	11
4					−23[b]	−41[a]	−13	−19	−22	29[b]	07	−07	09	01	11	−04	−17	−28[b]
5						−58[a]	08	13	03	00	22	−21	−03	09	04	21	11	21
6							−18	−01	12	−14	−17	15	06	−11	08	−19	−07	−04
7								35[a]	38[a]	−25[b]	19	−29[b]	−29[b]	22	−26[b]	61[a]	41[a]	26[b]
8									07	−15	22	−16	−07	14	01	13	11	11
9										−38[a]	−25[b]	−27[b]	−08	27[b]	−03	33[a]	44[a]	22
10											08	−37[a]	25[b]	−02	05	−11	−21	−16
11												−71[a]	−09	04	−08	26[b]	−09	06
12													−01	−21	05	−39[a]	−12	−11
13														01	34[a]	−14	−08	−03
14															−03	21	01	11
15																−37[a]	−15	−06
16																	43[a]	14
17																		44[a]
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		
36																		

[a] Significant at p .01.

[b] Significant at p .05.

APPENDIX W$_1$

Full Intercorrelation Matrix—E$_1$ Group (N=71)

	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1	24[b]	25[b]	55[a]	16	19	42[a]	−02	01	07	01	−09	−03	12	13	−05	06	−14	04
2	12	26[b]	54[a]	15	20	40[a]	02	02	16	−03	−05	−03	18	13	−04	09	−17	06
3	08	10	01	06	10	26[b]	−14	−15	−07	15	−08	−06	07	−03	−02	04	08	03
4	09	13	11	18	−14	−09	16	06	−04	−10	20	−03	−04	33[a]	−14	26[b]	08	−10
5	46[a]	36[a]	14	08	11	16	00	−01	09	08	−24[b]	−04	10	17	01	22	−35[a]	15
6	−48[a]	−47[a]	−18	03	−04	−22	−04	02	00	−07	12	10	−10	−36[a]	10	03	18	−08
7	27[b]	21	37[a]	40[a]	58[a]	82[a]	20	26[b]	34[a]	−20	−07	29[b]	44[a]	04	06	42[a]	−41[a]	00
8	01	01	62[a]	94[a]	49[a]	23[b]	10	23[b]	30[a]	−21	04	06	23[b]	−15	06	37[a]	−25[b]	−10
9	17	17	11	12	30[a]	30[a]	22	31[a]	23[b]	−30[a]	14	20	31[a]	−19	25[b]	21	−24[b]	14
10	09	01	−05	−23[b]	−13	−20	11	−05	00	−03	08	−02	−02	32[a]	−12	−18	00	−17
11	16	01	20	21	21	22	−01	−09	20	17	−04	−03	−03	27[b]	−10	54[a]	−57[a]	−04
12	−31[a]	−15	−23[b]	−14	−33[a]	−29[b]	−21	−11	−34[a]	09	−10	−10	−19	−27[b]	−02	−51[a]	65[a]	04
13	00	05	−14	−12	−10	−24[b]	21	16	08	−19	19	19	−01	14	05	−23[b]	05	00
14	18	−09	07	12	19	22	33[a]	32[a]	22	−35[a]	25[b]	31[a]	09	03	12	26[b]	−31[a]	−01
15	−05	−05	−24[b]	−05	−18	−27[b]	−08	00	02	06	12	−06	−14	−05	03	−14	07	00
16	36[a]	10	45[a]	16	38[a]	64[a]	11	05	17	−14	−02	10	26[b]	−02	08	30[a]	−32[a]	01
17	29[b]	27[b]	25[b]	12	22	45[a]	08	17	06	−08	−09	12	17	−14	23[b]	17	−21	−21
18	31[a]	32[a]	06	07	16	23[b]	09	10	14	−06	−05	10	11	−14	24[b]	26[b]	−27[b]	−21
19		45[a]	11	01	17	23[b]	12	09	11	−08	−06	12	28[b]	12	16	16	−35[a]	13
20			20	−03	26[b]	17	24[b]	24[b]	17	−10	−07	18	25[b]	17	09	−03	−16	−03
21				62[a]	57[a]	39[a]	10	09	28[b]	−10	02	−01	17	−02	−01	25[b]	−21	−17
22					53[a]	30[a]	04	18	30[a]	−18	08	05	21	−14	01	40[a]	−23[b]	−09
23						58[a]	26[b]	25[b]	49[a]	−24[b]	16	27[b]	31[a]	−14	26[b]	33[a]	−35[a]	−08
24							14	13	30[a]	−15	−11	21	26[b]	10	01	37[a]	−38[a]	−07
25								84[a]	61[a]	−78[a]	37[a]	72[a]	52[a]	18	20	07	−34[a]	09
26									51[a]	−79[a]	29[b]	66[a]	61[a]	08	27[b]	09	−33[a]	12
27										−59[a]	27[b]	58[a]	47[a]	28[b]	08	37[a]	−54[a]	15
28											−42[a]	−59[a]	−55[a]	−09	−13	−10	25[b]	−14
29												14	−08	−05	15	−11	02	−15
30													44[a]	13	13	15	−30[a]	15
31														03	19	24[b]	−38[a]	30[a]
32															−50[a]	03	−33[a]	14
33																−18	−21	−20
34																	−74[a]	10
35																		−07
36																		

[a] Significant at *p* .01.
[b] Significant at *p* .05.

APPENDIX W₂

Full Intercorrelation Matrix—Control Group (N=40)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1		93[a]	25	−01	38[b]	−45[a]	20	−11	−09	04	27	−20	−37[b]	37[b]	−42[a]	74[a]	−10	17
2			28	02	32[b]	−43[a]	21	−11	−01	04	30	−27	−33[b]	38[b]	−41[a]	70[a]	−10	17
3				−02	−26	−33[b]	22	27	−04	−10	00	08	−45[a]	14	−18	26	12	−09
4					−20	−41[a]	−14	−14	−14	−04	01	11	−03	16	−17	−17	−09	−01
5						−60[a]	14	−17	−22	00	35[b]	−15	05	13	−19	37[b]	−10	−11
6							−12	10	29	09	−25	−04	28	−27	34[b]	−37[b]	12	20
7								52[a]	32[b]	−08	45[a]	−55[a]	−29	−11	−39[b]	46[a]	22	19
8									32[b]	−25	13	−18	−14	−24	−20	14	28	04
9										−35[b]	−25	−25	−09	−49[a]	17	13	32[b]	19
10											05	−39[b]	26	33[b]	−14	−08	−13	−06
11												−71[a]	−14	27	−37[b]	40[a]	14	16
12													02	−10	28	−38[b]	−25	−23
13														−04	23	−36[b]	−08	17
14															−42[a]	19	−39[b]	02
15																−35[b]	17	−05
16																	12	27
17																		−01
18																		
19																		
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31																		
32																		
33																		
34																		
35																		
36																		

[a] Significant at *p* .01.
[b] Significant at *p* .05.

APPENDIX W₂

Full Intercorrelation Matrix—Control Group (N=40)

	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1	28	29	46[a]	01	07	23	−02	09	04	−06	32[b]	10	34[b]	05	−14	21	−20	−27
2	29	24	39[b]	05	08	25	−12	02	−03	−02	18	02	30	−01	−12	20	−17	−26
3	05	15	49[a]	27	35[b]	12	08	20	04	−26	21	15	20	00	−31[b]	27	−12	−16
4	08	21	−20	−09	−24	−18	04	11	−23	13	−01	10	−07	32[b]	08	−31[b]	04	−08
5	41[a]	08	15	−04	−08	21	09	06	29	−13	21	12	08	−10	−06	07	00	−18
6	−44[a]	−24	−27	00	07	−10	−12	−22	−16	18	−27	−21	−10	−11	16	02	01	24
7	10	23	22	36[b]	62[a]	91[a]	14	16	16	−29	31[b]	04	30	09	−13	38[b]	−35[b]	18
8	−14	−02	36[b]	80[a]	72[a]	51[a]	23	10	−04	−19	16	22	09	−03	04	13	−15	00
9	22	17	14	14	30	43[a]	−21	−32[b]	−07	24	−25	−33[b]	02	−09	−14	03	14	07
10	−13	16	−15	−10	−20	−15	36[b]	29	07	−36[b]	30	20	26	23	14	10	−31[b]	13
11	−05	04	21	09	33[b]	48[a]	10	17	32[b]	−21	16	21	16	31[b]	−18	45[a]	−50[a]	03
12	−02	−24	−18	−11	−37[b]	−61[a]	−16	−10	−26	22	−15	−08	−30	−34[b]	16	−46[a]	51[a]	−15
13	−12	03	−36[b]	07	−23	−24	−04	−15	−12	17	−21	−13	−23	−02	12	−21	12	−02
14	−06	05	03	−05	−01	−10	20	36[b]	13	−30	30	28	22	18	16	−06	−21	−20
15	−22	−19	−15	−29	−30	−38[b]	−16	−31[b]	−16	22	−38[b]	−24	−40[a]	−07	−08	01	12	08
16	24	38[b]	60[a]	19	38[b]	55[a]	−10	−03	03	08	18	−16	23	10	−21	33[b]	−28	−23
17	−01	08	25	12	33[b]	24	21	10	01	−01	04	06	12	−06	−19	18	−07	−17
18	−19	09	−04	15	10	28	−20	−07	−07	12	06	−08	39[b]	12	−07	−01	−02	14
19		44[a]	18	−14	−08	14	04	−06	16	−02	12	01	08	−16	−05	06	−03	−20
20			27	05	13	27	10	04	05	10	10	−11	01	11	−19	32[b]	−33[b]	−15
21				34[b]	43[a]	26	12	21	18	−14	14	15	24	12	−27	35[b]	−30	−06
22					65[a]	39[b]	19	09	−10	−16	20	26	11	−12	04	03	−02	−12
23						60[a]	19	22	19	−25	18	16	22	−05	−14	34[b]	−23	−01
24							−06	07	07	−04	16	−11	27	04	−12	30	−25	10
25								75[a]	43[a]	−80[a]	72[a]	85[a]	42[a]	17	−01	13	−29	07
26									50[a]	−78[a]	61[a]	71[a]	54[a]	07	13	06	−29	23
27										−58[a]	31[b]	44[a]	29	−15	−14	40[a]	−22	12
28											−70[a]	−81[a]	−55[a]	−09	05	−25	33[b]	−25
29												71[a]	63[a]	14	06	11	−30	11
30													49[a]	06	01	08	−18	09
31														15	−10	14	−24	25
32															−30	05	−43[a]	27
33																−45[a]	−01	11
34																	−71[a]	01
35																		−27
36																		

[a] Significant at *p* .01.
[b] Significant at *p* .05.

APPENDIX W_3

Full Intercorrelation Matrix—Group E_2 (N=56)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1		95[a]	12	13	25	−37[a]	25	−02	15	05	−14	−02	−40[a]	30[b]	−33[b]	68[a]	23	07
2			15	05	26[b]	−35[a]	26[b]	01	13	08	−14	−02	−34[a]	26[b]	−23	63[a]	22	10[b]
3				−12	−18	−37[a]	−31[b]	−41[a]	−03	03	−05	05	01	10	12	−11	14	31[b]
4					−19	−38[a]	−11	09	11	−21	14	−06	−04	09	−39[a]	−06	−02	06
5						−63[a]	42[a]	09	07	00	19	−21	−15	26[b]	−14	35[a]	16	26[b]
6							−11	11	−12	11	−21	19	15	−33[b]	29[b]	−20	−21	−44[a]
7								44[a]	14	01	28[b]	−33[b]	−31[b]	02	−17	58[a]	25	05
8									11	06	−06	−07	−06	−02	−08	29[b]	14	09
9										−39[a]	−19	−28[b]	02	39[a]	−26[b]	15	24	31[b]
10											−04	−35[a]	−10	−17	16	04	11	−16
11												−69[a]	09	−08	−01	01	13	16
12													−03	−09	09	−14	−35[a]	−25
13														−05	18	−28[b]	12	07
14															−40[a]	17	07	20
15																−24	−13	−20
16																	36[a]	16
17																		31[b]
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		
36																		

[a] Significant at p .01.
[b] Significant at p .05.

APPENDIX W₃

Full Intercorrelation Matrix—Group E_2 (N=56)

	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1	08	45[a]	51[a]	00	12	26[b]	19	20	17	−28[b]	13	29[b]	04	−03	20	−05	−07	02
2	06	44[a]	49[a]	02	15	28[b]	21	15	22	−26[b]	14	30[b]	−02	−11	21	−05	−03	−03
3	−04	18	−17	−34[a]	−32[b]	−30[b]	−02	−02	−07	06	02	03	−06	−05	−04	−12	16	06
4	−06	05	04	−04	08	−16	13	12	03	−11	−12	−05	01	24	−06	19	−27[b]	17
5	59[a]	47[a]	14	20	08	44[a]	19	23	13	−11	28[b]	29[b]	09	−23	37[a]	08	−19	06
6	−45[a]	−54[a]	−05	06	07	−09	−23	−26[b]	−09	13	−18	−24	−05	08	−26[b]	−12	24	−20
7	12	10	46[a]	51[a]	52[a]	85[a]	−05	−07	14	−06	−03	−01	22	−12	02	24	−16	−03
8	11	16	57[a]	85[a]	71[a]	42[a]	−02	02	19	−19	−01	−01	15	21	22	23	−23	01
9	14	−07	20	07	−02	14	25	24	12	−36[a]	16	25	15	−01	13	15	−21	20
10	10	26[b]	−03	00	11	−05	−06	05	07	−03	−02	02	13	00	11	−30[b]	19	04
11	−08	−05	−15	−08	22	15	00	08	10	−05	−05	−07	05	19	−15	43[a]	−38[a]	13
12	−10	−08	01	02	−24	−18	−14	−26[b]	−21	31[b]	−05	−13	−24	−15	−04	−27[b]	35[a]	−27[b]
13	−04	−24	−25	−07	−13	−18	−24	−19	−11	14	−19	−31[b]	−14	−06	01	06	−03	07
14	19	00	06	−09	−11	−01	38[a]	53[a]	19	−49[a]	24	37[a]	19	−15	26[b]	17	−24	18
15	−25	−14	−10	−11	03	−24	−31[b]	−41[a]	−13	33[b]	−07	−19	−29[b]	08	−30[b]	−17	30[b]	−40[a]
16	17	43[a]	62[a]	38[a]	43[a]	59[a]	09	18	17	−27[b]	19	13	17	−06	16	20	−25	−02
17	13	30[b]	33[b]	20	16	32[b]	09	08	14	−07	06	08	07	05	02	05	−09	01
18	26[b]	25	07	03	03	−01	03	08	−02	−06	08	06	04	−12	24	24	−30[b]	13
19		48[a]	11	21	−07	18	07	27[b]	13	−13	16	06	33[b]	−12	30[b]	−09	−06	20
20			32[b]	22	20	19	06	17	07	−13	20	15	11	−17	30[b]	−01	−10	−09
21				55[a]	51[a]	43[a]	08	07	30[b]	−22	15	18	06	−04	14	12	−18	−22
22					70[a]	59[a]	−15	−07	14	−07	10	−14	14	−20	18	16	−15	−03
23						45[a]	−06	−10	14	−12	−08	−07	10	−02	01	21	−18	−11
24							−04	−08	13	−03	−05	−03	12	−21	03	16	−03	−01
25								70[a]	64[a]	−70[a]	68[a]	84[a]	21	03	36[a]	06	−32[b]	06
26									54[a]	−83[a]	56[a]	68[a]	55[a]	00	50[a]	21	−53[a]	28[b]
27										−71[a]	50[a]	66[a]	33[b]	−05	27[b]	20	−33[b]	03
28											−58[a]	−73[a]	−50[a]	00	−45[a]	−30[b]	57[a]	−25
29												77[a]	23	−10	50[a]	10	−37[a]	04
30													26[b]	02	48[a]	−05	−30[b]	15
31														19	29[b]	01	−32[b]	31[b]
32															−42[a]	−33[b]	−01	−01
33																09	−52[a]	27[b]
34																	−74[a]	−01
35																		−17
36																		

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[a] Significant at *p* .01.
[b] Significant at *p* .05.

BF698
C838.

BF698 Cowen, Emory L. c.1/L
C838 Adjustment to visual
disability in adolescence.

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